

# BUTANE-PROPANE



## News

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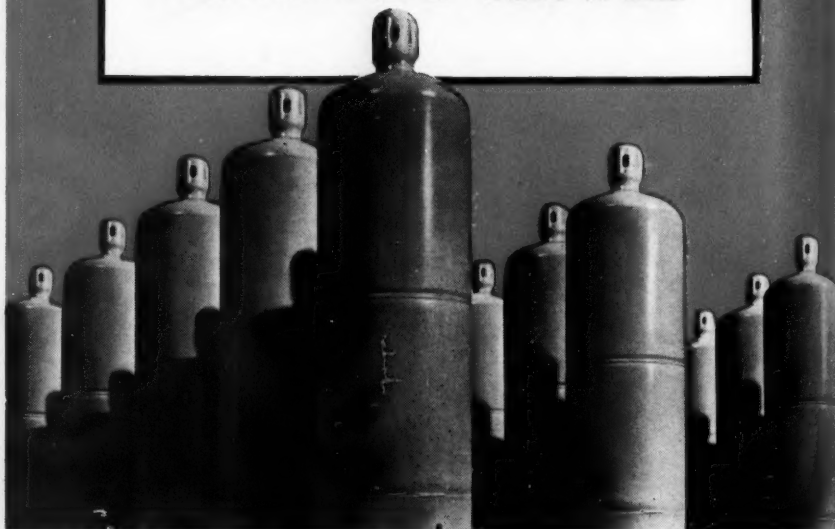
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FEBRUARY 1941

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**BLODGETT** —Makers of Fine Ovens Since 1848

# BUTANE-PROPANE *News*

Reg. U. S. Pat. Off.



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*of*

**L. P. G. Production Plants**

**L. P. G. Storage Systems**

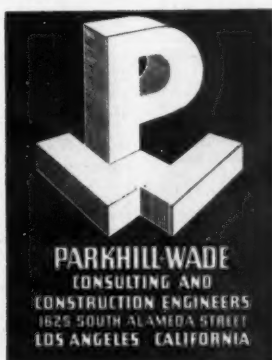
**L. P. G. Municipal Systems**

**Bus, Truck**

**and Tractor Conversions**

*and*

**SPECIAL LIQUEFIED PETROLEUM GAS  
APPLICATIONS**



# LETTERS

- **BUTANE-PROPANE** News welcomes communications from those identified with the liquefied petroleum gas industry, but readers will understand that this magazine does not necessarily concur in personal opinions so expressed.—Editor.

Gentlemen:

When the writer of the letter printed in your December issue over the initials "A.C.T." checks up on operations in the industry, he is going to be disappointed in your answer to him—maybe amazed.

Liquid systems with proper limitations and controls are O.K. Butane-propane mixtures used with vaporizing devices and provisions for elimination of condensation are supplying fine performance, especially in "A.C.T.'s" state of Missouri.

Aboveground temperatures of 15° below zero (or 40° below) do not mean much. Such temperatures are circumvented successfully by a thousand mechanical operations affecting mankind, including those in the LP-Gas industry.

M. E. McKAY.

San Antonio, Texas

*If Mr. McKay will read again the letter he refers to, he will find that our recommendation applied only to that particular underground, town distribution system of "A.C.T.'s" own special design, and does not refer to the individual underground type systems. Assuredly, a liquid system will function satisfactorily in the latter case and basic rules covering such installations will be found in the new pamphlet No. 53 of the National Board of Fire Underwriters under section "B.10" on page 11.—Ed.*

Gentlemen:

An ordinance is under consideration in our city which would require that only shellac be used for pipe joints where propane gas is to be used, while piping for manufactured gas can be joined with red lead or other similar compounds.

We are confident that red or white lead is not inferior to shellac with respect to either propane or manufactured gas. Will you please send us any information you may have on this question?

Florida

D. B. R.

*Those with wide experience in the LP-Gas industry, whom we have consulted, do not believe that white lead, red lead, or shellac are*

*suitable for pipe joints where propane or butane are used. None of them are believed to be good practice. It is recommended that we be restricted to compounds specially made for these gases. Among such are "Bu-Seal," manufactured by Electric and Carburetor Engineering Co., 2323 East Eighth St., Los Angeles; and "Rectorseal," manufactured by Rector Well Equipment Co., Fort Worth, Texas.—Ed.*

Gentlemen:

Recently we subscribed to the BUTANE-PROPANE News for one important reason—to further our knowledge of the liquefied petroleum gas business in general. So we would appreciate any information you may be able to give in regard to the opportunities for establishing ourselves in Eastern Washington and other sections of the state. In the eastern section, power rates are not too low and weather conditions favor the use of both butane and propane. Because the industry is so new in that locality very little information is available.

From what sources could we obtain authentic facts?

Washington

R. Z.

*We do not know of any localities where LP-Gas cannot compete successfully with electricity, whether rates are high or low—even at the very gates of some of the big hydroelectric power plants. For specific information of distribution opportunities in the Northwest we refer you to the Standard Oil Co. of California and the Shell Oil Co., Inc., both of whom distribute in Washington and have offices in San Francisco. The Pacific Coast Section of the Liquefied Petroleum Gas Association, 1625 South Alameda St., Los Angeles, embraces the Northwest in its membership, and may also be a good source of information.—Ed.*

Gentlemen:

Please send me by return mail a copy of the gas piping code.

W. G.

Oklahoma

*We do not carry extra copies of this and other codes in our office but they may be had by writing to the National Board of Fire Underwriters, 85 John St., New York City.*

## USE OUR RESEARCH DEPARTMENT

The BUTANE-PROPANE News technical staff will gladly endeavor to answer all legitimate inquiries (except legal and financial) about the LPG industry which regular subscribers submit.—Editor.

FOR ACCURATE FUEL MEASUREMENT  
PLUS EFFECTIVE COST CONTROL—

QUALITY

TOKHEIM

# LPG Pump with Ticket Printer

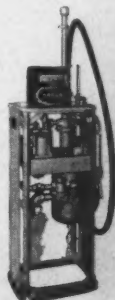


**T**HERE is never a question about accuracy with a Tokheim L. P. G. pump on the job. For this famous dispenser, with patented differential control and positive piston displacement type measuring unit, always carries a solid column of liquid from your tank to customer's tank... assuring absolutely accurate measurement. And the Model 982 Ticket Printer records every gallon or fraction; gives you consecutive, fool-proof printed records of all L. P. G. sales... assuring effective cost control and preventing fraud.

WRITE FOR BULLETIN NO. 313

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- Rapid Delivery of Fuel
- Safety "Dead Man" Control
- Smith Pumping Unit
- Ticket Printing Device
- Rugged Construction
- Weatherproof Housing



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GENERAL PRODUCTS DEPARTMENT

DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT

FORT WAYNE

SINCE 1901

INDIANA



**D. D. PURRINGTON**  
**Our Guest Editor for February**

# REGULATIONS

By D. D. PURRINGTON

Standard Oil Company of California

**R**EGULATIONS such as are issued by the National Board of Fire Underwriters, and the various States, municipalities, and other regulating bodies, should not be construed as in any manner being intended to hamper the growth of our industry. On the contrary, these regulations were prepared with the cooperation of our industry as a whole and should be looked upon as representing the recommendations of our industry as to what constitutes "good practice".

This being the case, these regulations should receive our wholehearted support.

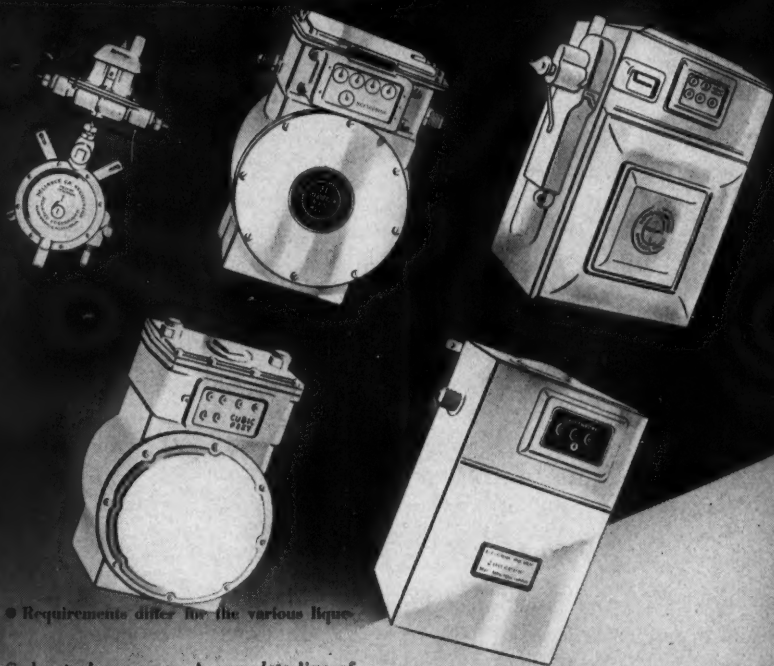
If, in some instances, present regulations appear to be unduly restrictive, it should be remembered that they have been drafted in a manner calculated to give maximum protection to the consumers as well as to our industry. The surest method of obtaining what we consider justifiably less stringent requirements is to keep our record clean, which can best be accomplished by complete compliance with existing regulations.

Proper regulations and adherence to them will promote safety and be a great sales aid to each and every member of the industry in the years to come. We are young as an industry, and it is during this period that proper standards must be set.

The safety record of our industry will have an important bearing on our cost of doing business both individually and collectively; particularly is this true with our cost of insurance.

If you know of an installation or a practice in your business that is not in line with requirements, correct it today; do your part for the best interest of your business, your industry, your customers and your country.

# A SERVICE COMPLETE



• Requirements differ for the various liquefied petroleum gases. A complete line of "American" meters, special indexes and regulators has been developed to satisfy every conceivable operating condition.

GENERAL OFFICES • 40 EAST 42nd STREET, NEW YORK, N. Y.  
**AMERICAN**  
**METER COMPANY**  
INCORPORATED (ESTABLISHED 1939)

# MAINLY BEYOND THE MAINS

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## DESPERATION TACTICS

We have observed before now that the electrical industry flinches with pain every time the subject of liquefied petroleum gas is mentioned; and we have come to view with comparative calm the increasing flood of misrepresentations, unscientific "tests," and misleading half truths that are used by that industry to bolster its insupportable claims that from the standpoint of cost, safety, speed or general all-round desirability electricity is superior to LP-Gas.

It is our painful duty to record here, however, that General Motors, through the medium of its General Motors Sales Corporation, has sired as unpleasant an illegitimate literary brat as ever adorned the field of so-called promotion literature.

This opus, copyrighted in 1940, is entitled "Compare the Facts" and purports to be "a comparative study of cooking appliances commonly used in rural and suburban homes." That the compilers of this work feel on none-too-sure ground is indicated by the fact that most of the text on the inside front cover is devoted to qualifying clauses designed to give good old G.M. a crawl-hole in case they are tripped up on their data. Salesmen are cautioned that, "This information is not intended for use in selling under any circumstances . . . its only purpose is educational," and "while all data are believed to be accurate, no representation to that effect is made or implied." And as a final admonition, "This booklet has been prepared for the confidential information of Frigidaire selling men **only**," with **only** well underlined.

The compilers have craftily avoided flagrant misstatements of fact, and have relied on misleading and shifty premises to bolster up their amazing arguments. Thus we

find that in their "impartial tests" which prove "Frigidaire superiority," costs are estimated on a basis of propane at 10 cents per pound and electricity at two cents per kw. hr. The fact that the national average selling price for propane would be closer to seven cents per pound, and the average rate per kw. hr. paid by residential electricity consumers during 1940 was 3.81 cents is conveniently overlooked.

The ultimate findings of the "impartial" tests indicated that Frigidaire ranges are 26% faster than bottled gas. This is truly a praiseworthy record for this range, when one considers that other impartial cooking tests, conducted for the United States Department of Agriculture, and released in the Department's Leaflet No. 191 (Dec. 1939 P. 4) found that "On the average, the time needed on the liquefied gas stoves to do the same cooking was 88% of the time required on the electric stoves.

The educational purpose of the booklet is furthered by a series of sprightly pen and ink drawings treating on such educational subjects as: \$99.50 being blown high into the air by an explosion; a 100-pound propane cylinder with an enormous price tag, "\$30," attached; a group of artisans standing with hands outstretched; a delivery truck bogged down in the mire; all of which, of course, "is not intended for use in selling under any circumstances."

That a representative factor in American industry should stoop to such a sleazy documentation of the claims of electric cookery, is in itself a good omen for the LP-Gas industry. The ordinary alert consumer is not bamboozled into buying an appliance through hearing only one side and its claims. The very heavy-handedness of such an effort invites the competition to tell its story, and it is not without significance that in summing up the "Reasons Why People Buy Bottled Gas Ranges," General Motors assigns as reason No. 1, "The constant activity and intensive salesmanship of bottled gas distributors and salesmen."

It may be that in this activity and salesmanship there also lies the key to the comparative growth in residential and domestic consumers served by the two industries. Electricity enjoyed a growth of 3.7% for 1940 over 1939 while LP-Gas consumers increased by approximately 25%.

MARKETED AS  
LIQUEFIED PETROLEUM GAS

USED IN GASOLINE MANUFACTURE

TOTAL POTENTIALLY AVAILABLE SUPPLY

0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 9,000 10,000  
MILLIONS OF GALLONS PER YEAR

DEMAND FOR BUTANE & PROPANE IN LIQUEFIED PETROLEUM GAS INDUSTRY  
AND IN MANUFACTURE OF GASOLINE AS COMPARED TO POTENTIAL SUPPLY

## Potential LP-Gas Supply Is 33 Times Present Demand

- The liquefied petroleum gas industry continued its march of progress in 1940. The marketed production in the United States is estimated at 300,000,000 gallons, an increase of 32.5% over 1939. The number of retail customers using liquefied petroleum gas for domestic fuel is now well beyond the million mark, the estimated total being 1,125,000 at the end of 1940, an increase of 325,000.

While the progress of the liquefied petroleum gas industry itself has been very gratifying it is interesting to note that, from the viewpoint of the petroleum industry the volume of propane and butane sold as liquefied petroleum gas is only 3% of the potentially available supply and only 10% of the amount of these gases blended into gasoline or made into motor fuel by polymerization processes. Any requirements for the synthetic rubber industry probably will not exceed that consumed as liquefied petroleum gas.

Use of liquefied petroleum gas for industrial fuel continues its healthy growth; its use by utility companies in recent years has been continuing at an accelerated but moderate pace.

Uniform safety standards are fast being adopted throughout the country.—G. G. Oberfell.

**T**HE liquefied petroleum gas industry continued its march of progress in 1940. The accompanying Table I shows the estimated marketed production of liquefied petroleum gas during 1940 with an indicated total of 300,000,000 gallons as compared to 223,580,000 gallons marketed in 1939, an increase of 32.5%. Highly specialized sales efforts in the domestic field, increased industrial activities resulting from generally better business conditions, and, to a mi-

- This article, estimating the sales volume of liquefied petroleum gas during 1940, was prepared by G. G. Oberfell, vice president, Phillips Petroleum Co., Bartlesville, Okla., and was released shortly after the completion of a similar survey made by BUTANE-PROPANE News which was published in our January issue. It is interesting to note how closely the two estimates tally. Mr. Oberfell's total sales are given as 300,000,000 gallons; Our figure was 293,000,000 gallons. Of universal interest is Mr. Oberfell's comparison of present volume consumption and supply, it being indicated that there is now being consumed but 3% of the potentially available supply. This fact is of tremendous interest to the industry, which is sometimes confronted with erroneous statements by competitors that our fuel supply is limited.—Editor.

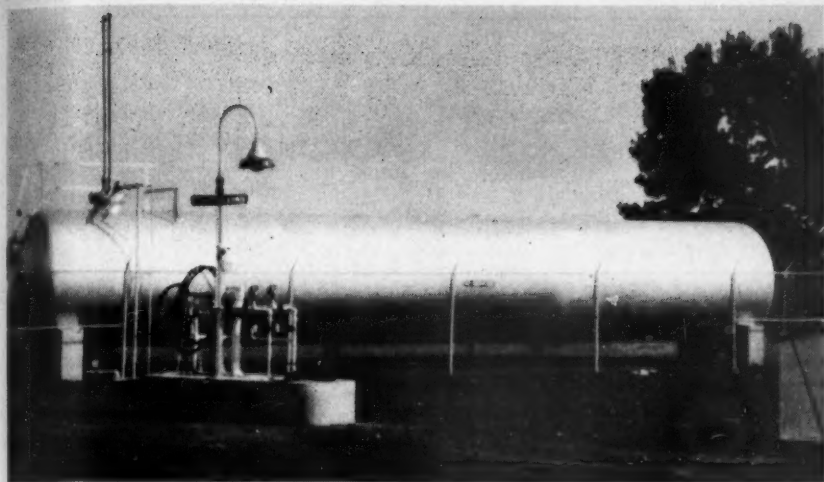
nor extent, the National Defense Program, account for much of this very substantial gain.

Table II and the accompanying chart showing present demand and future supply are of particular interest in that they show the total potentially available supply of propane and butane existing at all sources as compared to the quantities moving through various channels of consumption. The progress of the liquefied petroleum gas industry during the past year as well as during the last several years has been in itself very gratifying, but from the viewpoint of the petroleum industry as a whole it is important to note that the volumes of propane and butane marketed as such are only a relatively minor portion of the total supply and a small part of the amount used

in motor fuel. About 3% of the total potentially available propane-butane supply is sold as liquefied gas; and this amount is less than 10% of the volumes of these gases used in the production of gasoline by blending or through various polymerization processes.

The estimate for 1940 consumption of liquefied petroleum gas for home uses amounts to 128,000,000 gallons, which is an increase of 46.3% over the previous year. On the basis of the best information available, the number of new home users of liquefied petroleum gas increased approximately 325,000 during the year, the largest increase secured in any year. Territories where buried or underground systems are more commonly used account for about 50,000 of these new customers, a larger portion being acquired by distributors employing aboveground or replaceable cylinder systems.

This year's record is important in another respect also since it is the year in which the number of retail customers passed the million mark, the estimated total now being 1,125,000. Greater public acceptance of liquefied petroleum gas as a domestic fuel due to improvements in economy, efficiency, variety and convenience of gas consuming appliances, increased sales efforts, a larger number of distributors and larger advertising expenditures have been important influences in expanding home use of these highly efficient fuels. In many sections of the south and southwest where distribution is from nearby manufacturing cen-



**LP-Gas storage and fueling equipment used by Union Pacific Railroad.**

ters, the number of rural and suburban homes completely equipped with liquefied petroleum gas for cooking, water heating, refrigeration and house heating is showing rapid development. In many sections of the country, the competition of electricity for cooking has been reduced materially. Electricity remains, however, the chief competitor of the liquefied petroleum gas industry in the home for cooking, refrigeration, and, to a lesser extent, for automatic hot water heating.

#### **More Fuel for Industry**

The acceleration in the nation's industrial output experienced in 1939 continued during the past year. Higher industrial activity has required more fuel in the form of butane and propane and, with an increased number of users in the industrial field, the liquefied

petroleum gas industry has shared in the increased volume of business, as is evidenced by the estimated 27% gain in industrial sales.

A number of noteworthy installations were made during 1940. In industrial plants where natural gas in the past has been available from fields now showing rapid declines, liquefied petroleum gas is standing by as an emergency fuel or is completely replacing the diminishing natural gas supply. Several new industrial plants have been equipped to use butane or propane as fuel, some of these being in locations where manufactured or natural gas is not available.

The use of liquefied petroleum gas in the operation of internal combustion engines on construction equipment, well-drilling rigs, railroad locomotives, and railroad passenger car air-conditioning and electric generator units, continues

TABLE I  
MARKETED PRODUCTION OF LIQUEFIED PETROLEUM GAS

Year	Total Sales			Distribution—Gallons per Year			
	Gallons Per Year	Per Cent Increase Over Previous Year	Retail (Bottled Gas)	Per Cent Increase Over Previous Year	Industrial and Mis- cellaneous	Gas Manu- facturing	Per Cent Increase Over Previous Year
1922	222,641	...					
1923	276,863	24.4				1,500,000	...
1924	376,488	36.0				2,500,000	66.7
1925	403,674	7.2				4,000,000	60.0
1926	465,085	15.2				6,303,242	57.6
1927	1,091,005	134.6				9,703,470	53.9
1928	4,522,899	314.6				8,318,325	-14.3
1929	9,930,964	119.6				6,298,000	-24.3
1930	18,017,347	81.4				7,581,000	20.4
1931	28,769,576	59.7				9,371,000	23.6
1932	34,114,767	18.6				11,175,000	19.3
1933	39,931,008	14.1				12,386,000	9.8
1934	56,427,000	44.9				15,435,000	24.6
1935	76,855,000	36.2				19,000,000	23.4
1936	106,652,000	38.8					
1937	141,400,000	32.7					
1938	165,201,000	16.7					
1939	223,580,000	35.3					
1940	300,000,000	32.5					

*Sale of liquefied petroleum gas confined primarily to bottled gas business prior to 1928.*

In the above table "Total Sales" for all years except 1910 were obtained from U. S. Bureau of Mines reports. "Distribution" for the years 1931 to 1939, inclusive, was obtained from the same source. All other volumes are estimated by the writer. The total sales volume includes all liquefied petroleum gases (propane, butane, and propane-butane mixtures) when sold as such. It includes the sale of pentane when sold for any purpose other than motor fuel blending. It does not include butane when blended with heavier petroleum fractions for motor fuel purposes. Inter-company sales transactions, such as purchases of liquefied petroleum gases by one company from other companies and then resold as liquefied petroleum gases, have been eliminated. Other sales of liquefied petroleum gases are shown as direct sales of the producer at the point of production, for fuel, polymerization, solvent, etc.

to be an important factor in the expansion of the industry's markets. Butane fueled irrigation pumping engines in Texas and New Mexico are being installed at an increasing rate. The railroads continue to expand their use of liquefied petroleum gas as a motive power fuel in gas-engine-operated motor cars and small trains, and are finding increasing advantage in the use of propane for cooking and water heating in dining cars and for the operation of car air-conditioning and electric generating units. It appears that for small locomotive power units for railroad use, liquefied petroleum gas offers many advantages because of fuel economy, lower engine maintenance costs and particularly low initial capital investment.

In California, the use of liquefied petroleum gas in internal combustion engines on construction equipment and to a certain extent on heavy duty transport trucks continues to increase. Similar applications in the Mississippi Valley are developing slowly. In sections of Oklahoma, New Mexico, Texas and Louisiana where substantial amounts of liquefied petroleum gas are hauled long distances by tank truck, the truck engines in the majority of cases use liquefied petroleum gas as fuel.

#### Gas Plant Use

The use of butane and propane by the gas industry in small city gas plants and in certain other applications in larger gas manufacturing plants continued to show some increase as indicated by the 23.5% gain over the 15,435,000

gallons used in 1939 to an estimated 19,000,000 gallons in 1940. The merchandising of liquefied petroleum gas by utility companies beyond their gas mains has shown no developments worthy of comment. It appears that existing liquefied petroleum gas distributors are doing an excellent job of handling this type of market, particularly in the metropolitan and suburban areas around the larger cities.

#### With Natural Gas

The use of butane and propane as natural gas substitutes during peak demands continues to be of increasing interest to the utility gas industry and it is expected that substantial volumes will be required for this purpose during the present winter months. The use of propane and butane by utility companies to meet peak-load gas demands has shown that many economic and operating advantages can be gained by such methods of producing substitute gas.

The manufacture of synthetic rubber from petroleum products received considerable publicity during 1940. Certain synthetic rubber processes now operating are utilizing hydrocarbons as the base raw material and only future developments will serve to indicate the quantity of such hydrocarbons that will be needed. It may be stated, however, that potential sources will be more than sufficient for any near future synthetic rubber demand and the quantities required for some time will probably not exceed an amount equivalent to that now being marketed by the liquefied petroleum gas industry.

**TABLE II**  
**DISTRIBUTION OF TOTAL POTENTIAL SUPPLY**  
**OF BUTANE-PROPANE**  
**IN U. S. REFINERIES AND GASOLINE PLANTS (1)**  
**Millions of Gallons per Year**

	<i>Marketed as L P-Gas</i>	<i>Used in Manufacture of Gasoline</i>	<i>Used in Plant Fuel Gas</i>	<i>Left in Residue Gas</i>	<i>Total</i>
Butane .....	170	2850 (2)	250	1130	4400
Propane .....	130	750 (3)	1620	2250	4750
<b>Total .....</b>	<b>300</b>	<b>3600</b>	<b>1870</b>	<b>3380</b>	<b>9150</b>

(1) Estimated by writer.

(2) By blending and polymerization.

(3) By polymerization.

The industry continues to enjoy a fine record of safe practices in the storage and distribution of its products. The latest safety standards adopted by the National Board of Fire Underwriters and published in July, 1940, incorporate all of the various standards formerly published separately. Those organizations that cooperated with the National Board of Fire Underwriters in this work are deserving of commendation. It is gratifying to note that the following states have part or all of the National Board of Fire Underwriters' standards in their liquefied petroleum gas safety codes: Minnesota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Arkansas, Alabama, Louisiana, Mississippi, Kentucky, Tennessee, Ohio, Michigan, Indiana, and New Mexico, with California now considering revisions of its existing safety code. Future efforts in the promotion of safety, particularly education of personnel and of newcomers in the industry,

is worthy of most serious consideration by those responsible.

The Interstate Commerce Commission is placing in effect January 7, 1941, revised regulations for the transportation of hazardous commodities in which are included for the first time specifications for the construction of fusion-welded high pressure tank car shells.

#### **Continued Progress Assured**

This young industry can be proud of its fine record which enables rural and suburban American families to have the modern conveniences of gas cooking, water heating and refrigeration; which furnishes a highly refined fuel for large and small industrial plants and which has contributed so much to the comfort of travel in modern passenger trains. Continued success and progress in the future can be assured by proper attention to economics, by aggressive merchandising and by careful observance of established safety standards.

# Confidence in "The Gas Man" Overcomes Electric Competition

By HOWARD BARMAN

**T**WO major principles have guided the Pur-O-Pane Bottled Gas Co., of Sparta, Ill., in building up a liquefied petroleum gas distributing business in two years.

One is to make it mechanically possible for the consumer to use no more bottled gas than is actually needed to operate appliances, and the other is to provide a consistent personal service for the dealer.

Starting at scratch in January, 1939, Pur-O-Pane now has 150 retail outlets for its bottle gas and half of this number of dealers display and sell ranges and other appliances distributed by this firm.

Sales increase of bottled gas in 1940 over the first year amounted to approximately 360,000 pounds, the company bottling and selling about 675,000 pounds in 1940.

A major factor in the firm's progress is the aggressive selling assistance it gives dealers in competing with electricity on the new REA lines in Illinois and Missouri where it operates. Electric power has been available to rural residents at attractive rates, and the public utilities and electric appliance dealers are bending every effort to have the rural folks depend entirely upon electricity for supplying every power and fuel need on the farm.

Pur-O-Pane has a selling plan for the dealer and a service for the consumer that is adequately designed to meet this competition.

The gas consumer has confidence in the dealer when he orders a connection and this feeling must not be disturbed, E. E. Rapp, purchasing agent of Pur-O-Pane Co., said. "Our idea is to see that at the very start of gas service the consumer uses only the amount of gas actually needed for her range," he explained. "That means losses must be avoided. If more gas is used than

● When located in the heart of an electric stronghold where even the Government, through its liberal financing plans, is boosting the big utility, how can a liquefied petroleum gas dealer build a load of his own? An Illinois firm is successfully meeting the keenest kind of competition by following the good business policy of protecting the customer's pocketbook. This firm, the Pur-O-Pane Bottled Gas Co., helps the user to keep down the monthly fuel bill; it gives expert service; it demonstrates the advantages of gas; it builds a reputation for fair dealing, and it gives real cooperation to its 150 dealers. The company nearly doubled its business this year over 1939, so the plan must be sound. A BUTANE-PROPANE *News* correspondent tells the story.—Editor.



**George F. Eiker, president and general manager of Pur-O-Pane Bottled Gas Company, on extreme right, with E. E. Rapp, purchasing agent and his son-in-law in the center, and G. W. Chapman, sales manager.**

she expected, her original enthusiasm gives way to doubt and a prospective booster becomes a knocker. This kind of customer will kill potential gas users in her neighborhood. She tells her neighbors, "We use too much gas and the cost is high.

"We assume that until the stove is checked by us that the equipment is wrong. We adjust the stove thoroughly for temperature, check all the burners for air mixture and thoroughly examine the regulating equipment.

"If our service department gets a call that too much gas is being used, we know that the dealer's check-up is faulty and we handle the complaint ourselves. Recently an excessive gas use complaint came in from a range user and in our investigation we found that a cap on

the supply line had not been positively tightened. The leak was hardly noticeable in tests, but it was sufficient to cause considerable wastage."

The Pur-O-Pane Co. salesmen not only stay with a new dealer while he is making his first installation, but if he should have unexpected trouble in subsequent installations, a service man is dispatched to his community without delay. G. W. Chapman, sales manager of the company, said. "I made a hurried trip myself to Union City, Tenn., recently when a dealer telephoned he was having trouble with a new user's stove," he stated. "We must act quickly if we want to retain a customer's confidence.

"We want our dealer to be known as the 'gas man' of his community. We spend as much time with the

dealer as he thinks he has need of us. We encourage him to use publicity ideas, such as lining up gas cylinders in front of his store, and in making outside installations in a prominent position.

#### Place Installation in Full View

In the business districts we suggest that the installations be placed in the full view of street and foot traffic so that people will ask questions."

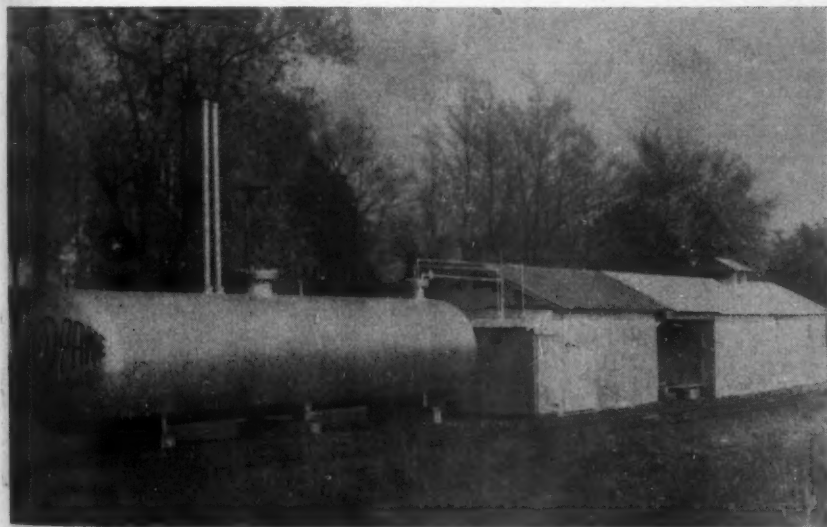
How do Pur-O-Pane dealers meet REA competition in their respective territories? Mr. Rapp gave this answer:

"Our dealers hammer away on these points: Initial cost is less; cost of fuel is lower; gas service is uninterrupted regardless of electrical storms, which is not true

with this competitive fuel. And last but not least our dealers make this unqualified statement: 'We'll put in a gas range on a free trial in your kitchen. You say you are also interested in an electric range. Then ask the electric company to put in a range and compare them yourself.' This point appeals to a woman and she asks the electric firm to make a trial installation. The electric range dealer says he can't do it because of high installation costs."

This firm has installed a display of gas ranges and sold a gas service franchise to many electric appliance dealers. While there is a larger unit sale in the electric range transaction, the importance of a regular volume of business in bottled gas sales is not overlooked

The Pur-O-Pane filling plant and tank at Sparta, Ill., are kept freshly painted with aluminum for the publicity to highway and railroad traffic.



by the smart dealer and eventually he begins to promote gas range sales.

Pur-O-Pane has a sales axiom that there is usually room in every community for more than one gas and appliance dealer, and that there is always a retailer in the town who wants to be a "gas man." Accordingly, the firm makes no effort to take a dealer away from a competitor. If a dealer wants to make a switch, he must take the initiative. When a town is surveyed for a new dealer, a progressive radio-appliance, lumber, farm implement, hardware or grocery firm is usually considered for this gas selling and service work.

"We never seem able to tell in advance what kind of success a dealer will have with gas and appliance sales," the Pur-O-Pane sales manager said. "We have retailers who look promising at the start but are actually a wash-out. Still others do not have what we think is a satisfactory set-up. But they come through with an amazing number of sales of gas and ranges. It's the

amount of enthusiasm they put into their work that counts.

"We look for dealers who have a good store traffic. And in that connection a small city grocer is one of our star accounts. Selling an essential item in food, he has close and regular contacts with a family. The service station operator has regular contacts with people of his town and countryside and we have some good dealers in this classification as well."

#### **Distribute in Four States**

Pur-O-Pane operating territory is defined by the location of active distributors in important marketing cities. The company confines its main operations to southwest Illinois and southeast Missouri with a few dealers in the adjoining states of Arkansas and Tennessee. General offices and bottling plant are located at Sparta, Ill., with a warehouse and loading dock at Cape Girardeau, Mo.

The delivery truck drivers are all trained to do emergency service work. The Pur-O-Pane fleet of



**Pur-O-Pane gives fast gas service with a fleet of medium size trucks.**



**Test exhibits at county fairs in 1940 brought good results and this activity will be expanded in 1941.**

trucks carries equipment and fittings. and start out with capacity loads ranging from 15 to 45 filled cylinders. When deliveries are made, empty cylinders are picked up. As the company is still expanding its dealerships, and retailers are increasing their gas loads, delivery service is not exactly on a scheduled basis but this goal is expected to be attained in the near future. The company gives prompt gas service and on the other hand asks for the cooperation of its dealers.

Test exhibits and demonstrations at three county fairs in 1940 convinced the Pur-O-Pane Co. that these shows are good investments and in 1941 this phase of sales promotion will be extended. So many people, when stopping at the Pur-O-Pane exhibit have been heard to remark, "I own a stove like that one," and the person who happened to be with the gas range owner be-

came an interested visitor. If she seems to be a potential customer her name is turned over to the dealer in the prospect's territory.

A booklet, "Modern Cooking at Its Best," is given wide circulation at county fairs and dealers' stores. It was prepared by Pur-O-Pane Co.

The president and general manager of this gas distributing firm is George F. Eiker, engaged for many years in the home furnishings business in Sparta. Mr. Eiker maintains a special show room in his retail furniture store for displaying liquefied petroleum gas ranges.



### **Propane Gas Bottling Plant Installed at Fedora, S. D.**

A bottling plant has recently been installed by the Fedora Oil Co., of Fedora, S. D., to be used in filling bottle gas cylinders. They will handle propane gas for both wholesale and retail business, according to P. L. Prostrollo, proprietor.

# SPACE HEATER VENTING

A new group of gas appliance salesmen has come into existence through the widespread use of liquefied petroleum gas in communities where neither manufactured nor natural gas is available. Quite generally these men have had relatively little or no experience with gas companies that distribute manufactured or natural gas. As a consequence, a great many of the practices that city gas men follow in choosing between vented and unvented space heaters for each installation are not familiar to the liquefied gas appliance salesmen.

## Venting Practices Are Not Uniform

It must be observed that every operating group of manufactured and natural gas companies set up recommended practices governing the use of vented and unvented space heaters, based on the ideas and experiences of each organization. Then, too, there is in existence a great variety of city ordinances and state laws applying to the venting of gas appliances that control the venting practice of individual gas companies. A few states have laws requiring venting of practically all gas burning appliances. In some other states the laws permit the use of unvented appliances in such limited applications that city gas companies simply plan on using only the vented type. This does not include gas ranges which are more or less

recognized as being exceptions to all venting ordinances and laws.

The multitude of laws and ordinances governing venting of gas appliances varies widely in basic requirements. Many are so loosely drawn that literal interpretation of them works needless hardship on gas appliances sales of every description. Some state laws governing venting are so badly drawn that they are simply ignored, since they cannot be enforced in their present form. During the past few years the American Gas Association has been making efforts to supply suitable material for revising state laws and city ordinances on venting that will make them practical.

## Reasons for Venting Space Heaters

Assuming that liquefied gas organizations are familiar with the venting ordinances and laws that are in force in their territories and where there is the privilege of installing both the vented and unvented type of space heaters, there are certain basic facts which should always be considered in choosing between the two types for individual installations.

Venting for safety falls into two classifications. The first is to provide a means of carrying to the outside air the unburned gas when the burner flames are accidentally extinguished and the gas supply continues to flow into the appli-

ance. While venting of this classification is of value where manufactured or natural gas is supplied, it is of little or no value with liquefied petroleum gas, since both propane and butane are heavier than air. It is exceptional where a flue is connected to a chimney with sufficient draft to carry away unburned liquefied gas liberated in an appliance. Fortunately, the petroleum companies who produce liquefied gas have taken an active interest in selecting and approving appliances and have insisted that practically all that are to use liquefied petroleum gas must be equipped with an automatic device to cut off the supply at each appli-

ance in case the burner or pilot flames are accidentally extinguished. This same requirement is incorporated in the American Gas Association Approval Requirements for liquefied gas appliances. There is a tendency on the part of some liquefied gas retailers to ignore the vital protection of what are commonly called "safety pilots" by the gas industry. This is a serious mistake. Every effort should be made to prohibit the installation without a safety pilot of any appliance that is to use liquefied gas.

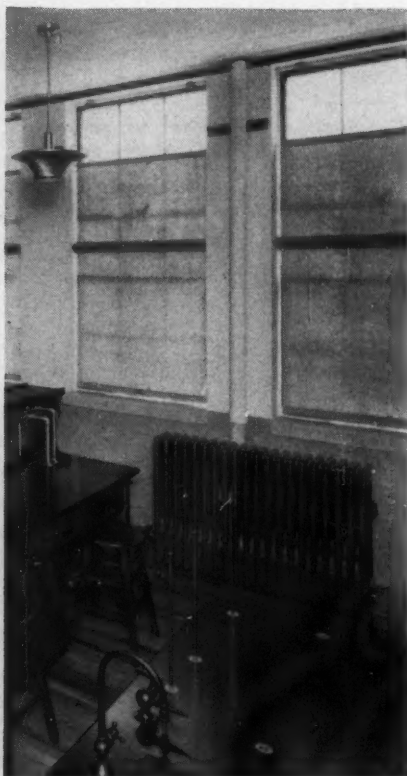
The second consideration of venting from the standpoint of safety is to carry off products of combustion, or rather products of incom-

**Where several vents are required, it is sometimes practical to gather them into one larger sized vent extending through the roof at the peak.**



plete combustion, that may result from inferior or overgassed appliances. Although vents that always function properly and are large enough provide protection against inferior or overgassed appliances, they are not a sure cure by any means, since many vents do not draw well under all conditions of wind and weather. A large per-

**Exposed inside vent connections can be made as inconspicuous as this one is, if careful planning and good workmanship are used. This vent and radiator are products of Chow Gasteam Heating Co.**



centage of accidents that occur with gas appliances is due to blind faith in vent pipes, which are actually a detriment when they do not carry off the products of incomplete combustion.

It is highly important to install only space heaters that are approved specifically for use with liquefied petroleum gas both by laboratories of responsible petroleum companies and by the American Gas Association Testing Laboratories. It is equally important to see that by proper regulation the gas input for which individual gas appliances are rated and approved is not exceeded. Every appliance approved by the American Gas Association carries a tag on which appears the maximum B.t.u. input at which the appliance is approved. This gas input should never be exceeded, as it sometimes is when inexperienced operators overfuel an appliance because it is too small for the job. Venting is not an adequate safeguard for this dangerous condition.

#### **To Prevent Condensation**

The intelligent selection between vented and unvented space heaters from the standpoint of preventing excessive condensation of moisture on windows and cold walls must take into account such important items as:

1. The type of construction of the building to be heated.
2. The prevailing relative outside humidity during the heating season.
3. The severity of the winter weather.
4. The amount of water va-

por produced by the gas that is burned.

The only variable in these four factors, when liquefied petroleum gas is used instead of manufactured or natural gas, is in the amount of water vapor that is produced through the burning of the gas. Table I shows the amount of water vapor that is produced per 1000 B.t.u. heating value by the various commonly used types of gas.

With the unvented type of space heaters, this moisture produced by the burning of the fuel is added to the room air and thereby increases its relative humidity. With the vented type space heaters, connected to an adequate flue or chimney, this moisture is carried to the outside of the building.

The addition of moisture to room air being heated is definitely beneficial and is desirable as long as about 40% inside relative humidity is not exceeded. However, condensation of water vapor occurs on cold outside surfaces, particularly windows, in amounts that are objectionable when high inside humidity and sub-freezing outside temperatures exist simultaneously, unless double glass is used. Occurrence of impractically high inside relative humidity with unvented space heaters is dependent upon the construction of the enclosure being heated.

Good construction from the standpoint of heating means less heat required in comparison to the size of the enclosed space and therefore the introduction of a correspondingly smaller amount of



Close-up of screened vent cap that is projected through the vertical portion of a French type roof.

moisture with the heat. If the construction of the enclosure is poor, then more heat per unit of cubical contents is required, and therefore more moisture is introduced and a correspondingly higher relative humidity of the inside air results. For example, a square building having 13-inch brick walls—furred, lathed and plastered on the inside

and with relatively few windows—would require only about one-fourth as much heat as would be required by an irregularly shaped building with unfinished 8-inch concrete walls (a large percentage of which is windows) even though both buildings have the same cubical content. Unvented space heaters are definitely not suitable for this latter type of building, because the excessive amount of heat required to maintain adequate inside temperature is accompanied by a corresponding amount of moisture, which is certain to cause troublesome condensation on the glass and even on the unfinished concrete walls, which have a high heat conductivity.

The minimum outside temperature normally to be experienced during the winter has a definite bearing on excessive condensation. The colder the outside temperature, the colder will be the inside surfaces of the glass and walls of a building, and this directly determines the percentage of inside relative humidity at which condensation occurs on these surfaces. Where zero or even lower tempera-

tures are experienced for several days at a time, only the vented type of space heaters can be used as the primary source of complete heat. In a residence this means that for these outside temperatures about 75% or 80% of the space heaters must be of the vented type. Only one or two of the less frequently used space heaters may be unvented if condensation is to be controlled satisfactorily. Zero and sub-zero temperatures must be reckoned with in the northern and eastern portion of the Nation.

As we move southward, the severity of the winter weather and the length of cold snaps decrease, so that when providing for heat in the far South, such as Florida, New Orleans and other points along the southern border of the United States and in southern California, the unvented type of space heater is usually satisfactory and suitable from the standpoint of resulting inside relative humidities. For geographical locations between these two extremes of winter weather, a combination of vented and unvented space heaters can generally be used. The selection in

TABLE I

Coal gas produces.....	1.63 ozs. per 1000 B.t.u. of fuel
Mixed natural and manufactured gas produces (average).....	1.50 ozs. per 1000 B.t.u. of fuel
Natural gas produces.....	1.47 ozs. per 1000 B.t.u. of fuel
*Propane gas produces.....	1.21 ozs. per 1000 B.t.u. of fuel
**Winter butane produces.....	1.17 ozs. per 1000 B.t.u. of fuel
Carburetted water gas produces.....	1.08 ozs. per 1000 B.t.u. of fuel

\* 1 gallon propane when burned produces approximately .83 gallons water.

\*\* 1 gallon winter butane when burned produces approximately .88 gallons water.

each case then depends upon the construction of the building where the heaters are to be installed.

### Are Products of Combustion Harmful?

The possibility of unvented space heaters being injurious to health must often be answered for prospective purchasers. The normal products of combustion from any fuel gas are carbon dioxide and water vapor. The effect of the production of water vapor has already been discussed. Carbon dioxide is the same gas that is produced by respiration of human beings. Carbon dioxide in the amount produced by the normal use of unvented space heaters appears to have no appreciable effect.

The dangerous element in the products of combustion from the burning of any gas fuel, or to put it more correctly the incomplete burning of gas fuel, is carbon *monoxide*—not carbon dioxide. Carbon *monoxide* is produced only when combustion is not normal, which may result from improperly designed or constructed appliances or from overgassed or otherwise badly adjusted heaters of proper design. The seal of approval of the American Gas Association Testing Laboratories is an assurance that the design and construction of any particular appliance are such that it will not produce carbon *monoxide* when properly adjusted and tested.

### Vent Design

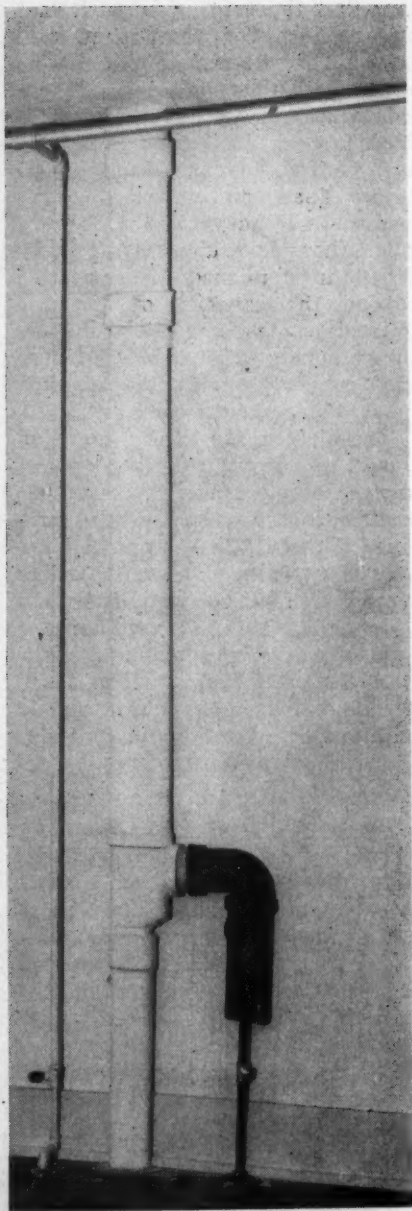
Once having decided on the use of vented space heaters in an individual installation, it is impor-

tant that the venting be such that the products of combustion will always flow directly to the outside air under all conditions of outside wind and weather. At best, a vented space heater connected to an inactive flue can function no better than an unvented space heater, and the vent is a liability when there is a down draft in it. When an appliance is overgassed beyond the capacity of the flue connection to completely handle the products of combustion, the vent connection may even be the cause of incomplete combustion.

The size of the vent connection should be adequate for the amount of fuel being used. It is safe to assume that a vent the size provided for an A.G.A. approved appliance will be sufficient unless some unusual draft conditions are to be dealt with. Not less than one square inch cross section area in a vent for each 7500 to 8000 B.t.u. per hour fuel consumption should be provided. A minimum vent size of 3-inch diameter is generally accepted practice.

### Reasons for Draft in a Chimney

There are two fundamental reasons for the existence of a draft in a chimney or vent. The first is due to the difference in weight between the column of heated air and the combustion products in the vent in relation to the air surrounding the vent. The greater difference in temperature, the better the draft, and because of this it is important to keep the flue gases in the vent just as warm as is possible until they reach the top of the flue outlet. Recognizing



this need, various forms of insulated venting materials, such as asbestos cement and double walled, corrosion resistant metal vent pipe, have come into common use with well informed gas companies and appliance dealers.

The second reason for the existence of a draft in a flue is due to aspiration. This depends upon the action of the outside air current blowing at right angles across the top of the vent which produces a partial vacuum. If outside air currents are to produce this draft in a flue instead of interfering with its normal function, it is necessary to have the upper end extend above the high points of adjacent roofs or walls. If vents terminate below the peak of the pitched roof through which the vent projects, or below the top of an adjacent parapet wall, there are bound to be wind conditions during which air currents will be deflected so that they blow directly downward on the tops of these low vents and thus prevent them from drawing, or at least seriously interfere with proper draft. The same is equally true of vents that are terminated at the side walls of a building, as the draft will tend to be reversed when the wind blows toward the wall through which the end of the vent projects. There is practically no escaping the necessity of extending vents at least several inches above the high

**Illustration of the proper method for increasing vent size where two vents are to be joined into one.**

point of a building in which the vent is installed, and even this is not always sufficient. A taller, adjoining building may work havoc with a vent that is extended well above the high point of the lower building. A good rule to remember in constructing vents for gas burning appliances of any kind is that the vents are not as apt to draw successfully when gas is used as when coal or wood is used. This is because the flue gases are generally not as hot from a gas appliance. Therefore, any vent or flue that will not work with a coal or wood stove is bound not to be suitable for gas, unless changes are made to correct the defects that prevented a successful draft with the coal or wood stove.

### Special Construction Features

Screening of the top opening of a vent or chimney used for gas is very important. The use of hardware cloth or heavy fly screen will prevent leaves drifting in and stopping up chimneys and vents and also prevent rodents and birds from stopping up the vents with nests, etc. In localities where mosquitos are prevalent, the vent opening should be screened with a fine enough mesh to prevent them from entering the building at these points. Both flies and mosquitos will congregate in vents not in use, and they naturally gravitate to the bottom and into the room through the back draft diverters on the space heaters.

The base of all vertical stacks should be provided with a means of disposing of condensed water



Exterior vents with the full size pipe extending into the ground below the frost line, thus providing for the disposition of water condensed in the stacks. Construction of this type is necessary where there is sub-zero weather.

vapor in localities where below freezing weather is commonly encountered; otherwise, this water will drain back into the space heater itself. Preventing excessive condensation in vents is another good reason for constructing vents of the best insulating material possible. Keeping the flue gases warm not only helps to create a better draft, but also minimizes the amount of condensation in vent stacks. Vent drains also provide for water that may enter if heavy rainfall is accompanied by a high wind, which often drives the rain

under vent caps down the vents.

When chimneys are available for venting space heaters, then the venting problem is extremely simple. There are then only two or three special precautions to be observed. First, chimneys should be swept free of soot and loose mortar if they have previously been used for coal or wood burning stoves. It is good practice to install a clean-out door several inches below the point where the vent enters the chimney to provide for a periodic removal of soot and other refuse that may accumulate in the base of a chimney. Water vapor produced by the burning of the gas will dampen soot, loosen mortar in the chimney, and cause them to fall. Unless the cleanout is provided and made use of periodically, the chimney may soon fill up beyond the point where the gas heater vent is connected.

Where a brick chimney is leak-

ing due to the mortar being slacked away, the gas vent may be extended inside the old chimney to the top in the form of a chimney liner. The draft will not then be checked by the leakage of cold air through the cracks in the old chimney. Closing off the space at the top of the chimney between the inner liner and the chimney walls is good practice.

Too much emphasis cannot be placed on the construction of vents that will draw under all conditions. Vented space heaters that do not vent are no better than unvented ones, and the user is thus deprived of a feature for which he has paid extra. Counting the cost of the vent, this often amounts to 50% or more. If vented type space heaters are needed for an individual installation, they should be installed so that they always vent—otherwise, the unvented ones are just as good and cost a lot less.



C. G. Berry and display of space heaters in office of Butane Consolidated, Oklahoma City.

# Luxury Demonstration Trailers Win Feminine Customers

**L**IQUEFIED petroleum gas display and demonstration trailers are coming into their own in Oklahoma.

C. Ralph Jones, co-owner with L. H. Hughes, of the Oklahoma Automatic Gas Co., Oklahoma City, announces that his firm has purchased the big 6400-lb. display trailer which was exhibited at the Oklahoma state fair, and will loan it to its dealers as an aid to making LP-Gas appliance sales in their various territories.

During the past Summer and early Fall the Oklahoma Automatic Gas Co., has had the use of the trailer. In addition to utilizing it at about 15 county fairs and the Oklahoma state fair, the company has made the rounds of dealers with it. The trailer was parked in front of retail dealers' places of business and their customers and prospects were invited into it to witness actual demonstrations of cooking, water and space heating with butane gas. Where the dealer wished to utilize the truck to help make a sale in the country the representative of the Oklahoma Automatic Gas Co. took the trailer to the home of the prospect and made an actual demonstration there.

The trailer is a de luxe model, equipped inside with many of the comforts of home, including Venetian blinds, air conditioning system, and electric lights from an indi-

vidual 110-volt electric lighting unit with fluorescent lights mounted just behind the cab. It carries a complete line of butane radiant and circulating heaters, thermostat-controlled floor furnaces, ranges and water heaters, all hooked up to 5-gal. bottles of butane and ready at all times for demonstration. Comfortably and beautifully upholstered chairs and divans are in the trailer where prospective customers may sit in comfort and watch the demonstrations.

It is a simple matter to induce housewives to enter the trailer and witness actual operation of the LP-Gas appliances, whereas, in some instances, it would be difficult to get them into town to look over the displays in the dealers' show rooms. Then too, it is pointed out, the trailer possesses the advantage of novelty to the housewife and gives her a clear picture of the actual operating convenience and serviceability of LP-Gas appliances.

"It is a most effective sales aid," Mr. Jones says, "and the trailer has proved so helpful to us and our dealers that we have decided to buy it and pass it around among our authorized retail dealers all over the state."

The trailer, on account of its weight, cannot be driven on some country roads in bad weather conditions, but can be utilized at any time on better highways.

# SELLING

## Indolence

In a check made some time ago of reasons for discharge of a representative number of salesmen, it was found that nearly one out of three were dropped for indolence. This percentage corresponds to other surveys made in various parts of the country during the last 20 years, and indicates that lack of industry is a salesman's most besetting sin.

The salesman who fails to make good, according to these investigations, is generally the one who is not willing to pay the price, which is hard work.

The problem, then, of the sales manager who would reduce the number of salesmen who fall down in his selling organization, is the problem of inducing them to keep on the job. It is up to the sales manager to see that every man in his organization works. He must do everything he can to get the salesmen to make more calls, to see more people, to spend more time with buyers, to study the problems of buyers more closely, and to plan his job more carefully.

Has the sales manager the right to shrug off the lazy salesman with the remark, "How can we help it if he doesn't do the work?" The sales manager who does this is dodging a responsibility. To a large extent, the failure of a salesman is a fail-

ure of the management as well. And the one function of a sales manager is to have his men on the job.



**"GIMME" JIMMY . . .** would be on top of list if they'd only . . . "Gimme somethin' else to sell, a better price, more advertising, or if prospects would only 'gimme' a break." Before long he'll probably be going around saying, "Gimme a job!"\*

## Planned Sales

"Don't confuse your prospect," advises a sales manager. "Put your sales presentation before him in logical order, so that we will absorb the reasons why he should purchase what you have to sell.

"This requires a planned sales story, built around an appeal to the various motives which impel people to buy. If you analyze the

## DOTTED LINE ROSCOE ... by Bob Crosby



**"Our kitchen planning department will be glad to design something in the 'U' type, complete with built-in nook and spice cabinets."**

reasons why prospects have bought any class of merchandise, you will find they are influenced by certain basic hopes, aspirations and desires.

"Suppose you are selling gas heating appliances. You have the following motives to which you should appeal:

"1. You should point out the health and comfort benefits of gas heat: the elimination of the causes of winter colds and other respiratory ailments due to faulty distribution of heat, cold floors and halls and excessive moisture.

"2. You should point out the luxury features, convenience and carefree operation. People are naturally indolent, and if you can show a house manager or a husband how the automatic devices for heat control will give him extra time to sleep in the morning, you have touched a motive that has a very definite appeal.

"3. You should stir his pride of ownership. If Mrs. Jones is told that one of her neighbors or one of her close friends has installed a gas heating plant, the chances are she will want one also.

"Of course, if it were possible to present your sales story without interruptions, the selling job would be much easier. Yet by finding and focusing upon the objections raised by the prospect, quite often you can find hidden motives that would not appear otherwise.

"Some of the obstacles the salesmen encounters are: lack of confidence in the salesman, his merchandise, or his company; ignorance on the part of the prospect of the advantages to be derived from having the merchandise; belief that

the expenditure of the sum asked will not give satisfaction.

"Overcoming these objections often strengthens the points which tend to make the prospect give a favorable answer.

"In a planned sales demonstration, when the salesman approaches his prospect, he knows what he is going to sell and what it is necessary to make the prospect think, before he can hope to secure an order. He knows the appeal he is going to use, the buying motive which it is necessary to arouse in his prospect's mind, before he can hope to make that prospect buy.



**"RABBIT-EARS" ELMER . . .**  
soaks up all the hard luck stories prospects pass out. Just let someone even whisper that business is bad, and Elmer is all ears. The only thing he can't hear is his name when they call off the leaders . . . it isn't there!\*

\* From Belnap and Thompson's "Hobby Club Rush Plan."

# LIQUEFIED PETROLEUM GAS ASSOCIATION, INC.

AFFILIATED WITH COMPRESSED GAS MANUFACTURERS' ASSOCIATION, INCORPORATED



11 WEST 42ND STREET NEW YORK, N. Y.

## AN OPEN LETTER TO THE LP-GAS INDUSTRY

One of the objects of the Liquefied Petroleum Gas Association, Inc., as stated in its Constitution, is—

“To cooperate with other organizations in efforts toward economic advancement, accident prevention, conservation, standardization, and other activities.”

For a number of years the Association has worked with insurance underwriters and regulatory authorities, aiding in the development of adequate rules for the safe installation and operation of LP-Gas systems. One result of these efforts has been to make products liability and property damage insurance available to many units of the industry that could not previously obtain it. This activity also placed in the hands of the Underwriters experience data which in the final analysis is the basis for determining rates. These benefits accrued to any interested company in the industry—member of the Association and non-member alike.

The Association has now been advised that the premium rates for minimum contracts covering the types of insurance mentioned may be greatly reduced if sufficient interest is shown by those affected. The Liquefied Petroleum Gas Association will be glad to refer any inquiry from either members or non-members, addressed to it in this connection to the proper parties in the insurance industry for further handling.

Liquefied Petroleum Gas Assn., Inc.  
F. R. Fetherston, Sec'y.



# "OUR L.P.G. GO FOR GAS

*say dealers who push*



**1.** "We find Servel Electrolux the ideal appliance for winning new sales and profits and increasing our L.P.G. load among customers who are cooking with our gas. The idea of being able to add modern automatic refrigeration in their homes is strongly appealing to them . . .



**2.** "... and the Gas Refrigerator's exclusive operating advantages give us the selling edge over other makes. People want the permanent silence, continued low operating cost, and freedom from wear of Servel's 'no moving parts' freezing system. Once people buy Servel...

**3.** "... they're eager to know what *other* appliances can be run on their home gas systems. Result: the sale of Servel Electrolux protects our cooking load, builds new load, stimulates the sale of other gas appliances, and publicizes the modernity of gas. Yes, pushing Gas Refrigeration has meant better business for us."

# G. CUSTOMERS AS REFRIGERATION"

sh **SERVEL ELECTROLUX...**

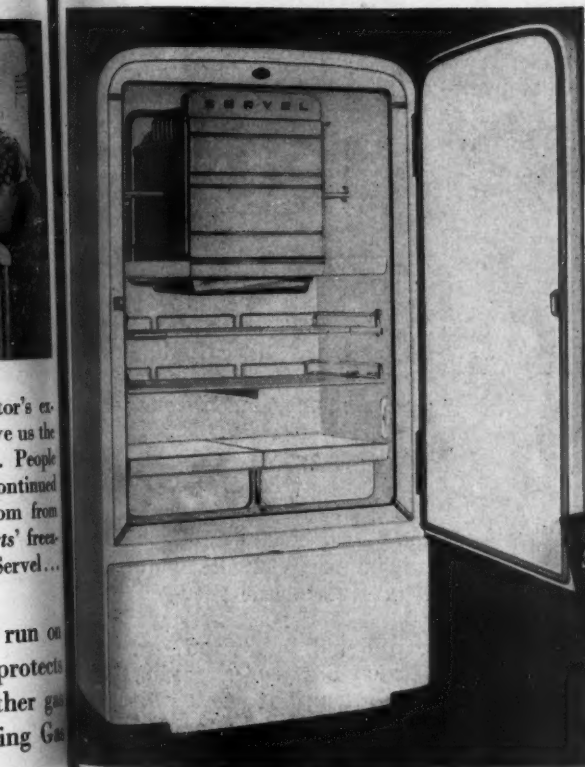


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ELECTROLUX  
*Gas*  
REFRIGERATOR



# Across Continent in 84 Hours In Butane-Equipped Car

By C. H. JONES

Engineer for Columbia Broadcasting System, KARM, Fresno, Calif.

**J**UST before leaving on a trip from Fresno, Calif., to New York City in early July, I was influenced to change over the engine on my car to permit the use of butane gas. I took it for granted that fueling stations were established all along the route of travel. Almost immediately after leaving home, however, warnings came to me from places where I stopped that after I left Arizona I would not be able to obtain butane for my purposes. As emergency protection, I had left on my old tank so that if need arose I could switch over to gasoline, so I preceded on my way determined to go as far as I could on LP-Gas, but disappointed to think I would not have the benefit of this new automotive fuel in the interests of greater economy, flexibility and efficiency.

My first stop out of Fresno was Bakersfield, where I filled up, for I had decided to keep my tank as nearly full as possible. At Los Angeles and Indio I bought more. In the latter place I paid 11 cents per gallon. The temperature was 114° and a long stretch of desert ahead of me to the next station. But I stepped up my speed to about 80 miles per hour and my motor performed beautifully, with the water

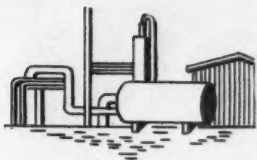


C. H. Jones beside the Chrysler car that carried him 7353 miles on butane from Fresno to New York City and return.

temperature never getting above 190°.

I bought fuel in Blythe, Calif., from the town plant there just before crossing the Colorado river into Arizona, and hit out for Phoenix. There I found two, de luxe 24-hour, butane stations. My next stop was at Deming, N. M., where I was filled up by the company that supplies butane to surrounding ranchers. On the New Mexico-Texas state line there is a station that supplies 24-hour service from a 2500-gal. bulk plant. At El Paso, Texas, I was still paying 11 cents per gallon, but at Lorraine, Tex., the price dropped to 10 cents.

A large gasoline concern at El

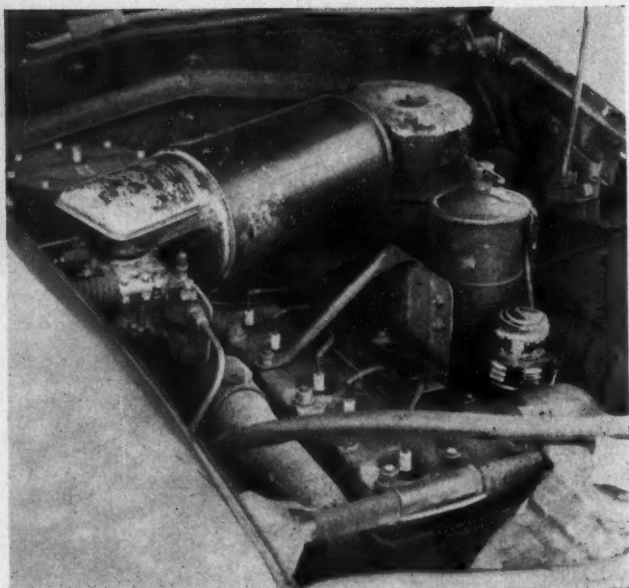


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▲

The butane regulator and gasoline carburetor and butane connection into gasoline carburetor. The air cleaner is on top. (All photographs with this story by Mac Dorothy, Fresno, Calif.)

▼

Big Springs or Sweetwater, I forget which, informed me I could not buy butane there nor at any point farther east. But on my way out of town I found a good station that charged me but 5½ cents, and in the next 10 towns I passed through the fuel was available and at the same price. So far it had never been necessary to let my tank get less than half full.

My curiosity to see a large butane refinery swerved me down to Gordon, Texas, 60 miles from Fort Worth, where I paid but 4½ cents per gallon. Leaving Gordon, I drove to Fort Worth and Dallas. At the latter place there was day and night service, but I had not used enough since leaving Gordon to justify taking on any more.

At Texarkana on the Texas-

Arkansas line I paid 9 cents, and uttered a silent prayer for more stations ahead, as again I began to be warned that there would be few, if any, places beyond where I could buy butane. But at Little Rock, Ark., I found it in abundance (at 10 cents) and shot on to Memphis, Tenn. While I didn't buy in Memphis, it was easily available there. In Nashville, Tenn., I made my first lay-over, staying a day and a half with relatives. I had been driving night and day, so slept most of the time, but my family drove about town and filled the tank at a bulk plant there, paying 15 cents per gallon. At Bowling Green, Ky., my birthplace, the price had dropped to 12 cents. Back to Nashville, and then to Knoxville, Tenn., where butane was to be had, but I didn't

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GAS RANGES

*Again*

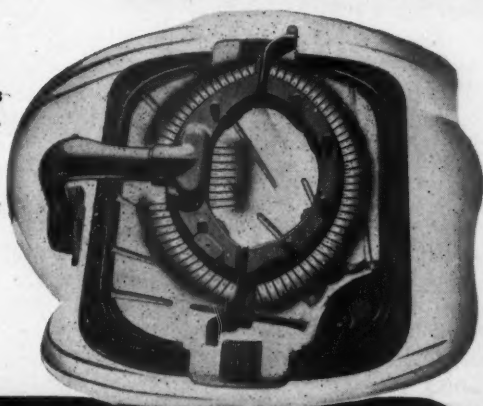
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Send today for latest in-  
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and range profits in '41.

ROPER GAS RANGES FOR ALL GASES INCLUDING LIQUEFIED PETROLEUM GAS

FEBRUARY-1941

buy. At Bristol, lying half in Tennessee and half in Virginia, the gas station man I asked had never heard of butane, so on I went through Roanoke and finally to Pulaski, Va., a town of 10,000 inhabitants. At Pulaski I filled up from a 28,000-gal. bulk plant that had been there since 1930, and paid 10 cents per gallon, with low grade gasoline selling in town for 20.4 cents per gallon.

My next stop was Washington, D. C., where the classified phone directory showed an entire column of butane firms. I next bought in Maryland, however, paying 10 cents. Two days were spent in Washington and Maryland, visiting my wife's parents, who have a 160-gal. underground butane system, and then I started on the last lap of my journey, the 241-mile stretch to New York City. In the suburbs of New York I could buy butane at many places.

For three and a half days we

visited the Fair and saw the sights; then started on the return to California. Having been so successful in finding fuel on the route I took East, I decided to follow the same course westward. My most interesting experience occurred in Texas, some place between Gordon and El Paso, separated by 600 miles, where at midnight I chanced upon a night club. Standing in front of the place was a large tank truck which carried the name "Butane" in large letters. Knowing I could not reach El Paso without more fuel and doubting that any stations would be open that time of night, I barged into the night club, in spite of my dusty clothes and a two-day beard. I asked for the truck driver and he was pointed out to me in a far corner, surrounded by several attractive girls. He looked good to me, too, so I made my plea for fuel, and although he said he had on his good clothes and was off duty, he agreed to fill me up. This he did,



▼  
The butane tank installed in the baggage compartment of car. It holds 39½ gals. of fuel.  
▼

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**BUTANE CARBURETION  
FOR TRUCKS, TRACTORS, BUSES  
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**PROVIDES CORRECT  
GAS-AIR MIXTURES  
AUTOMATICALLY FOR  
EVERY LOAD AND SPEED**

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**ACCEPTED STANDARD AMONG LARGEST  
OPERATORS FROM COAST TO COAST**

**Butane, when properly carburetted is the  
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Equipment is accurately designed to meet  
every engine need with extra perform-  
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● **Write us for complete information. Our com-  
petent engineering staff is at your service.**

**ENSIGN CARBURETOR CO., LTD.**  
**HUNTINGTON PARK, CALIF. • DALLAS, TEX. • CHICAGO, ILL.**

giving me 28 gallons, and when I asked him the price he said, "Oh, 'bout a dollar," and asked me to look him up when I came through again. That was the cheapest—and most appreciated—gas I bought on the entire journey.

To sum up my trip, I traveled 7353 miles. Including stop-overs I was gone 14 days. The return trip from New York was covered in three and a half days, which included a five-hour enforced lay-over in Dallas to buy a tire, as I arrived there at two o'clock in the morning. I kept money for my car expense in a separate pocketbook. I started with \$92 and had \$28 left when I returned. I figure it cost me approximately .8 of a cent per mile for fuel and motor oil, the top price being 15 cents per gallon and the low 3.57 cents per gallon.

#### **Never Completely Filled Tank**

My butane tank held 39½ gallons, but I never put in more than 36 so as to always have vapor space for high pressures during hot days. There were 36,000 miles recorded on my car before I left, yet on this trip I got 540 miles to every quart of oil used. I have not even yet drained my crank case and the oil is still very clean, due, I believe, to the use of butane. In many desert stretches I drove 90 miles per hour for hours at a time, but had extra heavy tubes for safety. There were four in the car—my wife, mother and small son, besides myself.

The biggest joke on me was that when I got back to Fresno I discovered my gasoline line had been

broken, so I could not have used other than butane even if needed.

My butane carburetor was installed on June 25. I had never had any experience with this fuel before, and since then, including my New York trip, I have driven 12,000 miles and not one bit of trouble has developed. My carburetor is a Pyramid, made by the Pyramid Carburetor Co., Los Angeles.

An interesting sidelight of my trip is the change I saw in rural districts. Three years ago I made the same trip with a diesel-equipped car. Then, farmhouses along the way were unpainted and many deserted, and few seemed to have modern household conveniences. Now, innumerable homes have butane systems, houses are well lighted and well kept and an air of prosperity and contentment seems to prevail. I am convinced from many inquiries I made that liquefied petroleum gas has had a big part in spurring farm families to return to the land and to improve their places to put them in keeping with the new order of living made possible with the introduction of gas to places far beyond the city mains.

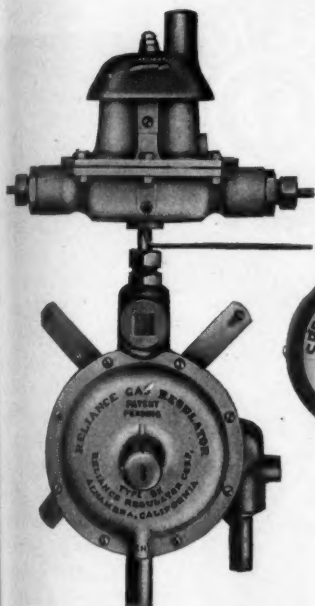


#### **St. Paul Skelgas Agency Changes Hands**

The Skell-Gas agency, formerly operated by William Gruening in West St. Paul, Minn., was recently purchased by John C. Ott.

Mr. Ott is familiar with Skelgas sales and service, having operated with this company out of St. Croix Falls for the past eight years. The local offices will continue to be maintained at 893 South Robert St.

# This Regulator Does Everything But Telephone For More Gas



Type "BK" Regulator with spring loaded weatherproof canopy top—a variable adjustment can be obtained with this model.



Reliance Type "MR" Regulator for Liquid Petroleum Gas automatically reduces cylinder pressure in two steps to uniform service conditions.

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An indicator shows whether one or both cylinders are in use, and also when more gas should be ordered, thus insuring a service as constant and dependable as any artificial or natural gas company can offer.

No manual changing from one cylinder to the other. No relighting of burners. No interruption of service. No blowing of the safety seal. Perfect control and regulation.

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# Only Grand Can



The Grand SAFE-TEE-KEE is one of the major gas range improvements of all times. It is a milestone of progress for the entire industry—and a fundamental contribution to the safety of the American home.

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CLEVELAND, OHIO

Offer You the

# SAFE·TEE·KEE

A New, Exclusive Safety Feature  
That Safeguards the Home and Family

HOUSEWIVES by the hundreds have written to ask, "Isn't there some way to eliminate the possibility of children turning on the gas in the range?" "Isn't it possible to protect us from leaking gas that may accumulate in the oven?"

Grand has found the answer. The new 1941 Grand Gas Range is equipped with the SAFE-TEE-KEE—a master shut-off valve operated by a removable key. When the range is not in use, Mrs. America merely closes the valve, removes the key to a safe, convenient place—and is secure in the knowledge that although the children may turn the valves, they cannot turn on the gas . . . secure, too, in the knowledge that no leaking gas can burn or scare her when she returns to use her oven. Yet the SAFE-TEE-KEE does not interfere with automatic lighting because the pilots are ingeniously by-passed.

● Children are not the only source of accidents—we've seen adults brush against a gas range and unknowingly turn on a burner. It can't happen on a Grand Gas Range equipped with the SAFE-TEE-KEE.

● Escaping gas does not always cause fire—but at best it is wasteful. The Grand SAFE-TEE-KEE completely eliminates this waste . . . and the danger as well.

● Lock valves, push or pull valves and other devices have not solved the need for a safer gas range. Only the SAFE-TEE-KEE makes it utterly impossible for playing children to turn on the gas in your kitchen range.

● No other range at any price offers this great new safety feature.

## THE CLEVELAND CO-OPERATIVE STOVE CO.

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Please send me full information on the 1941 Grand Gas Ranges, equipped with the SAFE-TEE-KEE.

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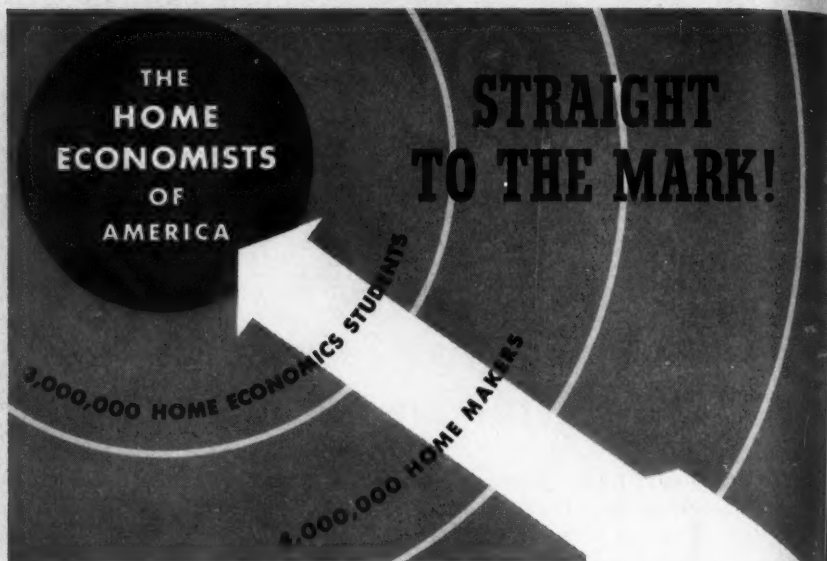
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RATOVE COMPANY  
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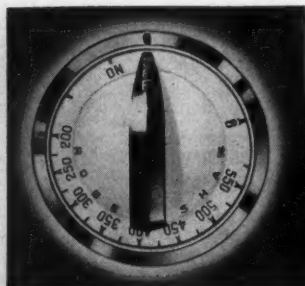


Robertshaw enlists the active assistance of the most influential kitchen promotion group

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Robertshaw has created a new Educational Service for the free use of home economics teachers, home demonstration agents, home service directors. This Service sells the modern range by selling measured heat as an important ingredient in every recipe.

Thousands of requests for the Service have already been received. Thousands of teachers and directors will shortly be promoting range sales more effectively with aid. Another big step forward in the merchandising of ranges!



**And a big step forward in heat control!** Complete control of both fuel and temperature in one dial! One motion turns the gas on, dials the desired heat. One motion turns the gas off and returns the setting to zero. Provided only by Robertshaw!

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## THERMOSTAT COMPANY

Youngwood, Pennsylvania

# Accidents Will Be Rare— If the Customer Plays Safe

By **JOHN M. ROCHE**

Industrial Safety Engineer, National Safety Council, Chicago

**B**ECAUSE liquefied petroleum gas is a fuel that is not yet universally understood by the public, it has to pass through a period of misapprehension by the uninitiated similar to that of gasoline a few years ago.

Of course, accidents occur, and when they do, the adverse effect on the LP-Gas industry cannot be denied. The public loves the spectacular. Newspapers satisfy that desire by giving wide publicity to such unusual cases. Fortunately, accidents are rare.

Every member of the LP-Gas industry must realize the importance of accident prevention. Safety must be assured not only for the customer in the operation of his butane-propane plant, but also for employes in the operation of retail distributing plants.

It is hardly necessary to point out that in a great majority of cases, accidents involving propane-butane utilization equipment can be charged directly to improper operation by the user. There have

been few, if any, cases in which the equipment was inherently unsafe, although there have been one or two accidents reported due to substandard installation of approved equipment.

Great strides have been made in the industry toward insuring the safety of such equipment. Standard, approved installations are now the rule rather than the exception. There is still much to be done, however, in educating the user so that he can operate the equipment with the maximum of safety.

The first and most important element in assuring safety for the user is to sell only approved and safe equipment. In many communities, the only installations that can be made are those manufactured and installed according to the specifications of the National Fire Protection Association and bearing the seal of approval of the Underwriters' Laboratories. In other cities and towns, where ordinances affecting liquefied petroleum gas equipment are not in effect, the rule should still hold true; sell and install only standard, approved apparatus. The specifications of the National Board of Fire Underwriters are well known to LP-Gas retailers and need not be discussed here.

Approved equipment is of little



**J. M. ROCHE**

value if it is not installed according to standard requirements. Recommended pipe valves and fittings should always be used. Every detail of the installation should be strictly according to specifications for approved propane-butane utilization systems.

Another of the important functions of the retail dealer service man is the education of the public in the safe use of LP-Gas accessories. That they can be operated safely and efficiently is testified to by the tens of thousands of satisfied users.

It is not enough for the service man to post the instruction card and then expect the user to study it and follow the rules. It is necessary that the instructions on the card be carefully explained to the user and that he be given every opportunity to ask questions regarding points on which he is doubtful. He should always be encouraged to call the service man whenever there is any trouble with the system, and he should be particularly impressed with the serious consequences that might ensue should he attempt to make any change in the installation.

#### **Proper Packing Must Be Used**

For instance, home mechanics, unfamiliar with the properties of propane-butane mixtures, might attempt to repack the valve stems on the regulating valves of the equipment. Unless the proper packing is selected, as every service man knows, it will soon fail and a gas leak will occur. It is true that in standard installations, leaks of this nature should not re-

sult in accidents. However, it is best not to allow hazards to occur.

The best safety lesson is one taught by a good example. The LP-Gas retailer should start safety at home. Not only should he make certain that his plant and equipment are safe, and that his employes are thoroughly trained in the operation and use of the equipment, but he should also train them in other phases of accident prevention so that they will be safe from any type of accident.

#### **Better to Play Safe**

Let's talk first about the hazards directly related to the retail handling and installation of propane-butane cylinders and equipment. Not all of the suggestions given here represent hazards that have caused accidents. Knowing the properties of LP-Gas, however, we know that such accidents could occur. It is better—and safer—to eliminate any chance of accident by being extra-cautious than to under-estimate hazards and come to grief.

Gas cylinders are rugged metal containers that are built to withstand rough usage. This does not mean, however, that employes have free license to handle cylinders carelessly or roughly. Operating valves or safety valves on the cylinders might be damaged or, in some cases, the plugs might come loose and allow gas to escape. It is even possible to crush the cylinder by fouling it with a heavily loaded truck.

The caps supplied for cylinders should always be put in place and kept on the cylinders until they

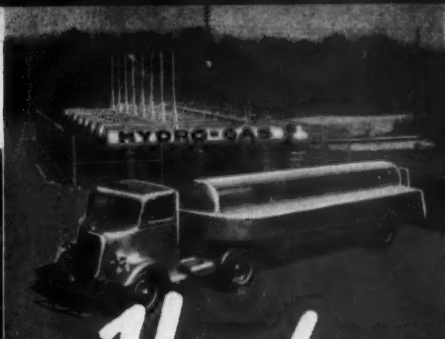
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**M**UCH experimentation preceded the introduction of the first Hydro-Gas System more than seven years ago. Since that time thousands of Hydro-Gas Systems have been placed in use to serve rural and suburban homes and many varied types of commercial users, delivering to these owners an unequalled record of satisfactory performance under all kinds of conditions. Hydro-Gas Systems are being constantly improved and they today possess more patented features than any other LP-Gas system. Responsible dealers who are interested in a Hydro-Gas dealer franchise should communicate with us.

**SOUTHERN STEEL CO.  
SAN ANTONIO, TEXAS**



are installed on the customer's premises. Cylinders, when handled, should not be dropped to the floor but should be eased into position slowly. These cylinders represent a heavy cash investment on the part of the operator, and it is necessary, if the business is to operate efficiently, profitably and safely, to keep cylinders in good condition.

### **Protect Cylinders from Sun**

It is desirable to always store cylinders under a roof and protected from the direct rays of the sun. It would be better not to store them near artificial heat since it is well known that the pressure in the cylinders is in direct ratio to the temperature of the gas. Trucks used for delivering cylinders may well be of the covered type, or at least a canvas tarpaulin might be supplied to protect the cylinders from direct sunlight while they are en route.

Occasionally, a cylinder will leak either at the valve or at the fusible plug. If the leak is at the valve and it is possible to shut it off, this should be done. Where the leak cannot be stopped by closing the valve more tightly, then the gas should be permitted to escape in a location where there is no possibility of accidental ignition. The practice in some companies is to take leaky cylinders to the center of a large open field and allow the gas to escape slowly. A close watch is kept over the operation to make certain that there will be no danger of ignition of the escaping gas.

It is suggested in the N.F.P.A. code that changing or charging of cylinders on customer installations be done only by daylight. This is not always practicable. The retail LP-Gas dealer is engaged in a public utility business. He must be ready to serve his customers whenever and wherever necessary. In emergencies, where it is necessary to change cylinders at night, the service man should use only United States Bureau of Mines approved explosion-proof flashlights or electric lanterns. While there is little danger of gas escaping during the change of cylinders, if the operation is carried out properly, this safety equipment should, nevertheless, be used. The good example set by the service man will indicate to the householder on whose apparatus he is working, the importance of observing all safety regulations.

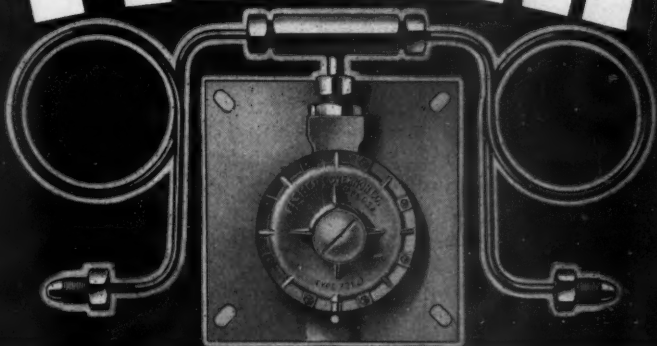
### **Servicemen Must Be Alert**

Each time a cylinder is changed, the service man should make an inspection of the apparatus to make certain it is in good operating condition. Any defects should be called to the attention of the householder, and the service man should recommend the proper corrective action.

The service man, too, should never smoke while engaged in handling or installing containers. The practice should also be prohibited while men are operating or riding on trucks which are transporting cylinders.

These are only a few simple yet highly important suggestions with

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## TYPE 721X REGULATOR TWO DRUM ASSEMBLY with Check Valve Manifold!

This equipment provides a high standard of pressure regulation and control, yet is available at surprisingly low cost. Automatically closes off the empty cylinder side of the cross "T" when that cylinder is removed—preventing excessive loss of gas. All alloy, metal, die cast body and cover. Diaphragm and valve disc of highest quality composition. Built-in relief valve set for 1 lb. and sealed. Large capacity—120 cu. ft. per hour or more. Back plate furnished only on special order.

\* *Bulletin 42-D gives full details and prices on the complete Fisher line of liquefied petroleum gas equipment. Send for your copy today.*

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## GOVERNOR COMPANY

921 Fisher Bldg.

Marshalltown, Iowa

respect to safety in servicing and installing customer's equipment. It is these little things, however, from which the most serious accidents are likely to occur. Every service man should know what these hazards are and be taught to avoid them.

It is the firm belief of safety engineers, based on years of experience, that safety in the liquefied petroleum gas industry can be achieved. First, employees should be taught the proper and safe methods of performing operations; next, it should be made certain that they know exactly why these definite rules are enforced since it is evident that much better performance will be obtained from men who know why they are doing

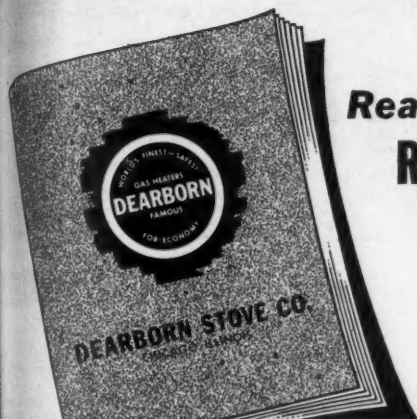
things. Third and last, the employer and his supervisors should make regular checks of performance and hold the workmen to high standards of production.

This educational system of telling what to do, telling why it is done, and checking on results, has worked exceedingly well in other industries, and there is no reason why it should not do an equally good job in the LP-Gas field.

The accident record up to the present time for liquefied petroleum gas installations has been good. The industry is now standing on its own feet, and it should not be held back by any unfortunate and spectacular accident that would attract unfavorable public attention.



Salesmen and sales leaders of the Geo. D. Roper Corp., who attended the first 1941 sales convention in Rockford, Ill., Jan. 2-3. At this time the new 1941 Roper gas ranges were shown district managers and field men.



*Ready About Feb. 1st.*

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NOW!**

## **DEARBORN STOVE CO.'s NEW GAS HEATER CATALOG**

**DEARBORN'S  
HI-CROWN  
BURNER IS  
WITHOUT A PEER  
IN THE  
BUTANE FIELD**



**DEARBORN  
GAS HEATERS  
A.G.A. APPROVED  
LIQ. PET. GASES**

**DEARBORN  
STOVE COMPANY  
Chicago**

**FINEST AND MOST COMPLETE  
BUTANE LINE IN DEARBORN'S  
HISTORY. ALL A.G.A. APPROVED.**

**BEAUTY, SAFETY,  
ECONOMY, EFFICIENCY,  
AND EXTRA VALUE**

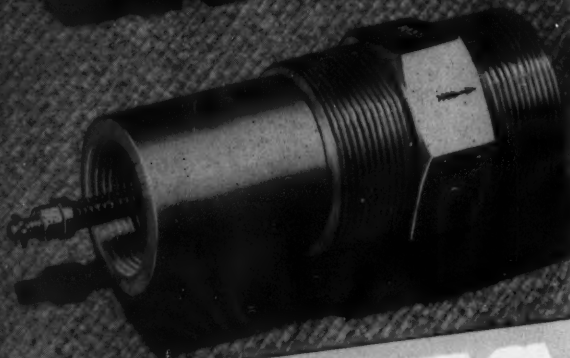
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Gentlemen:

Please send me post paid a **FREE** copy  
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#### REGO VAPOR-RETURN VALVE

offer a convenient and safe connection. The valve is open by the hose coupling, closes automatically when coupling is disconnected.

#### REGO BACK-PRESSURE VALVE

permit the flow of gas in one direction but automatically close when the flow is reversed or stopped.

#### REGO QUICK-FILLER VALVE

afford a convenient and safe means for connecting the tank to the hose. They allow for unrestricted flow into the tank but automatically close when the flow is stopped or reversed.

#### REGO EXCESS-FLOW CHECK VALVE

allow for normal flow but automatically close when the flow through the valve exceeds a predetermined amount (as might occur due to a hose or piping failure).

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# PROTECT YOUR INSTALLATIONS

## INSTALL REGO VALVES *On All Butane-Propane Systems*

Accidental breakage of liquefied petroleum gas piping or transfer hose — and these accidents do and will occur — results in a serious hazard to life and property. Adequate provisions should be made to protect the installation against the resulting discharge of the container contents to the atmosphere.

REGO Excess Flow Check Valves,  
Back Pressure Check Valves,

Quick Filler Valves and Vapor Return Valves — when properly selected and applied — effectively protect your installation against these hazardous conditions.

Like all other REGO products these valves are manufactured to give long uninterrupted service and to resist detrimental action of the fuel in either liquid or gaseous phases.

Specify REGO Equipment for Complete Protection



The **BASTIAN-BLESSING Co.**

258 E. Ontario St.

Chicago, Ill.

Pioneers in equipment for using and controlling high pressure gases.

# Once Waste Material— Now Premium Product

**I**T is only necessary for producers to look back a short time, to when kerosene was the marketable product and gasoline was the waste material, to realize that the waste materials of yesterday often become the premium products of tomorrow.

Fifteen years ago, absorption plants were faced with the problem of discarding their excess reflux. Some small quantities of this mate-

rial were being distributed in California for household purposes, and some manufacturers were experimenting with uses and methods of handling, but no appreciable market had been established.

This excess reflux was a combination of all of the paraffin hydrocarbons from methane to the heavy ends. In those days, there seemed to be no limit to the heaviness of the ends, except that it was water-white, and over half of it would boil off at normal temperatures. Water entrained and in solution was another source of trouble.

The first distributions of so-called commercial butanes were made in small tanks manufactured by various water heater companies. They conformed to no code. The valves and fittings were intended for every conceivable purpose other than liquefied petroleum gas use. It was not uncommon to have the tanks one-third full of heavy ends and water after the gas had stopped coming off. A pressure gage would give the consumer a good idea of how much gas he had left, because the pressure varied as the fractionation in the tank progressed. Due to the varying B.t.u.'s of the fractions, the stove burners were hard to light when the tank was full, and smoked when near the end. Constant manipulation of the primary air was necessary in order to make the appliances operate at all. In spite of all of these drawbacks, the price of the

## **"PRODUCERS**

**and marketers... have been throwing away a premium product which requires only a progressive, constructive sales program to force it to take its proper place as one of the cleanest, most economical premium fuels available, with an anti-knock rating**

**equivalent to the finest of aviation gasolines." The reference is to butane, and the quotation is the closing sentence of Charles E. McCartney, Petrolane, Ltd., Long Beach, Calif., in a paper delivered before the California Natural Gasoline Association at its annual meeting in November. It is only one of many arresting statements in an exhaustive article which deals with the unstabilized butane market and the factors which may develop to change the present buyer's market to one favoring the seller, permitting the latter to realize a justifiable price for a premium fuel which in the past has been likened to a troublesome, refinery stepchild.—Editor.**





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**SAY:** "ROCHESTER CRITERION GAUGES ARE OUR NO. 1 CHOICE . . . BECAUSE OF THEIR PROVED ACCURACY, DEPENDABILITY AND EASY INSTALLATION!"



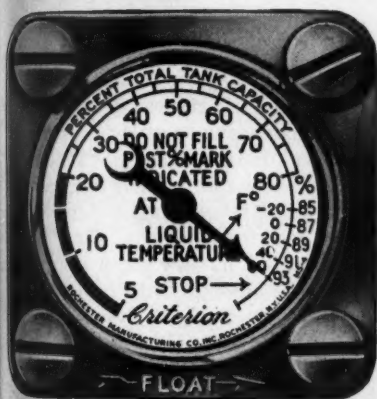
## L. P. GAS DELIVERY MEN...

**SAY:** ROCHESTER CRITERIONS ARE DEPENDABLY ACCURATE . . . NO GUESSWORK WITH THESE 'EASY-TO-READ' GAUGES ON THE JOB!"



## L. P. GAS USERS...

**SAY:** "THE 'LEAK-PROOF' FEATURE OF A ROCHESTER GAUGE IMPRESSES ME . . . A REAL SAFETY FEATURE!"



## FEATURES

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- No opening through gauge head into tank.
- No fuel waste when in use.
- No keys or wrench required when reading.
- Easy-to-read dial tells ACCURATELY at-a-glance the amount of fuel in the tank in terms of percentage of total capacity.
- Red area on left side of scale warns user when fuel needs replenishing.

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# ROCHESTER *Criterion* GAUGES

fuel was 15 cents per pound, or about 65 cents per gal. to the consumer. (Certainly a premium fuel.)

The industry was making great strides in fractionation and absorption, and the quality of this fuel rapidly improved. The larger producers recognized a profitable market for a waste material, and pure propane as a bottled gas made its appearance in California. This propane was marketed with a progressive and constructive sales plan, without the price cutting which was so prevalent in the commercial butane field, and today the propane market is increasing more rapidly in the United States than the butane market, at a consumer price almost 10 times that of the butanes.

The marketing of propane gave rise to a greater problem in the plant operation, because in capturing the propane in the excess reflux, the quantity of residue or commercial butane was greatly increased, and the disposal of this material in large quantities presented quite a chore.

A fertile field for distribution was quite evident from the successful operation of the first gas plant at Moorpark, Calif., and a drive to equip similar towns began. Also, studies were made of enrichment of oil gas for city consumption.

#### **Butanes-Gas Oil Comparison**

Normal small oil gas plant operation had a manufactured gas cost of about 72 cents per thousand to holder. A comparable gas could be made by diluting commercial butane vapors with air. The cost of diluting the vapors was about 5 cents per thousand, leaving a balance of

67 cents to be allocated to the cost of the butane. The vapor from 5½ gals. of butanes, when blended with the proper amount of air, will make 1000 cu. ft. of a gas equivalent in heat content to 550 B.t.u. oil gas. Hence, the butanes had an economic value in this field of 12 cents per gal. in competition with gas oil. In larger operations, this economic value figured as low as 6 cents per gal. This premium fuel is now sold at one-half this lower value.

#### **Pioneer Rarely Rewarded**

In new gas plant operation, butanes were cleaner and the initial investment was much smaller. Undiluted vapors could be distributed on a therm or pound basis to compensate for the higher heat value. Many plants of this type were installed, but the pioneering and sales expense was quite high, and the pioneer rarely reaped the reward for his labors, as plant operators with excess butanes and without sales expense were able to undersell the developers of the market. They sold on the basis that a sale at any price was better than blowing this waste material to the air. Prices were quoted as low as 2 cents per gal. This near-sighted policy tended to slow up rather than increase sales for this type of operation. In this field, education and constructive selling were necessary to expansion, and price was a secondary consideration. At the prices quoted, there could be no allowance for the required sales promotion and education; and the goose, that was a potential layer of golden eggs, was killed.

*(Continued on Page 62)*

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## *Anaconda Copper Tubes* make for quick, workmanlike installation

Annealed by a closely controlled process, Anaconda Tubes are uniformly soft; they can be cut, reamed or bent by any of the usual methods, and flared without cracking.

Clean, smooth, inside surfaces, accuracy in size and shape, and freedom from defects are features you can be sure of in Anaconda Tubes. Complete freedom from rust provides true economy, re-

duces servicing and promotes good will.

So remember, make it Anaconda for efficient, durable bottled gas services. 20 foot straight lengths and a wide variety of coiled lengths are available through distributors everywhere.

*Anaconda Flared Tube Fittings are made of cast bronze, in sizes from 1/8" to 2" inclusive. Cast bronze and wrought copper solder type fittings from 1/4" to 4" inclusive are also available.*

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FEBRUARY - 1941

The marketers who were attempting to build a legitimate, profitable business were driven into other fields where some investment as well as promotion work was required. This investment on the part of the marketer was in tankage and delivery equipment, and amounted to a large enough item to deter the price-cutters. The farming areas had a large potential use in tractors and pump engines, and commercial butane had many advantages over other fuel for this purpose.

Early in the development of butane as a motor fuel, comparative tests were made to determine its economic value in competition with other fuels.

In order to understand the following test results, it might be well to consider its characteristics as a motor fuel:

Butane is carbureted in a vapor form which allows finer adjustment of the mixture than with gasoline and precludes entrained liquid from reaching the cylinder. Therefore, all heat can be removed from the intake manifold, thus adding to the thermal efficiency of the engine. Its volatility prevents condensation of hydrocarbons on the cylinder wall and resultant crankcase dilution. Combined with a small percentage of propane, it has an octane rating of 100, and will therefore stand a higher compression ratio without detonation. Its slow burning feature changes the torque curve of straight-run gasoline so that a greater torque is generated and the curve peaks at slower speeds—thus creating an increased horsepower from normal operating speeds downward. Thus the efficiency of this

fuel increases inversely with the speed of the motor and directly with the length of the stroke; in other words, the increase in efficiency is greatest in long-stroke, slow-speed engines such as tractors, heavy duty trucks and power engines, while on pleasure cars and like equipment, the smaller thermal content of a gallon of butane becomes apparent, and the mileage per gallon should be less than with gasoline, although the engine should run smoother. This thermal content of a gallon of butane is about 20% less than that of a gallon of gasoline, and in short-stroke, high-speed engines it is impossible to overcome this handicap.

#### Gasoline Comparison

In order to show the competitive value of butane and gasoline, a demonstration was made using two large tractor units of the same type and size—one with gasoline, and the other converted to butane, with higher compression. In checking the operating results as closely as possible, it was found that the butane showed a 20% to 25% gallonage saving at the same load, or would develop about 20% to 25% additional power if desired. Although an attempt was made to have these two units exactly alike as to mechanical conditions, there was some slight advantage to the butane due to the higher compression of the motor. Later operations have shown about the same results as the original tests. Hence, on large gasoline tractors an increase of power or a fuel saving of 20% to 25% can be expected when properly converted to butanes. *(Continued on Page 64)*

# EMCO Special Butane-Propane Vapor Meter

**THE METER  
THAT  
CAN "TAKE IT"**

Several Hundred EMCO Special Butane-Propane Vapor Meter Installations Made by a Midwestern LPG Distributor

METERING LPG involves different problems than those confronted in measuring ordinary natural or manufactured gas. The highly volatile character of LPG makes it expedient to place much of the storage, control and measurement apparatus out-of-doors. Heavy tanks, sturdy regulators and meters are a "must" on this service—and in the metering category the EMCO Special Butane-Propane Vapor Meter has been proven to be the meter that can take it!"

Its heavy cast iron case—rugged and non-corrosive—will withstand the rigors of the elements as well as possible damage and dangerous rupture from severe blows. As an additional safeguard, the EMCO design includes an index box cast as an integral part of the meter cover. It is closed by means of a solder sealed, thick, high strength glass assuring a complete seal without possibility of leakage.

Bulletin 1063 gives complete description—write for your copy.

## PITTSBURGH EQUITABLE METER COMPANY EMCO NORDSTROM VALVE CO.

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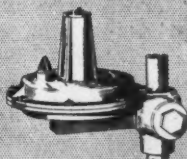
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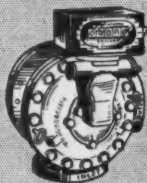
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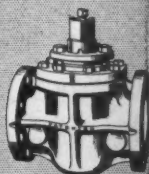
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There is another advantage to the use of this fuel, and that is that theft by employees is practically impossible and there is not the large unaccounted-for loss shown by gasoline which probably finds its way into private cars. The absence of this loss in many cases has made the butane show a greater saving than is possible due to the increased efficiency of the fuel alone.

The conclusion must be drawn that butanes have a competitive value of 20% to 25% more than third structure gasoline on all types of large tractors, whether on the farm or in construction work. Why, then, should butane—a premium fuel—be sold for so much less in actual competition?

#### **Diesel Comparison**

To prove the value of butane in competition with diesel fuel, one of several tractors built for and burning diesel fuel was converted to butane by removing the injector and reversing the intake manifold to allow for a butane down-draft carburetor. A large field was checkerboarded so that each tractor would operate under identical conditions. The butane-equipped unit plowed about 20 acres per shift to 14 for the diesel units. The operation of this equipment was a perfect demonstration of the increased torque of butane at low speeds. Whenever a hard spot or irrigation border in the field was encountered, the diesel driver had to shift gears in order to compensate for the increased load, but the butane unit carried through, thus gaining several yards every few minutes.

The operator figured his labor

and fuel cost as 36 cents per acre for the butane unit and 42 cents for the other units. You will note that the butane unit cost slightly more per shift to operate, but it did a lot more work.

This operator figured his cost on the basis of five-cent diesel fuel and eight-cent butane, which leads to the conclusion that the labor is more of a factor than the fuel, and that butane has an economic value more than 50% higher than diesel fuel in all operations where diesel tractors can be used. This being true, why then is butane, a premium fuel, sold for less?

#### **Electrical Power Comparison**

A test was made in the San Joaquin Valley with a pump engine of standard design, compressioned for butane. This equipment required .35 lbs. of butane to develop 1 brake horsepower hour, or .452 lbs. to produce the equivalent of one kilowatt hour. In this case, the user was paying \$14 per horsepower per year standby, and .8 cents per kilowatt hour for his power. Allowing the \$14 for oil, grease, write-off, and repairs (above the requirements of the electric motor), we find that a fuel cost of practically six cents per gal. will equal the eight mills power cost.

The oil, grease, write-off and repairs can be handled for much less than the \$14 per horsepower per year, as allowed, and therefore the economic value of the butane in this case was more than six cents per gal. At this price, the profit to the consumer warranted the additional investment required to replace the electric motor.

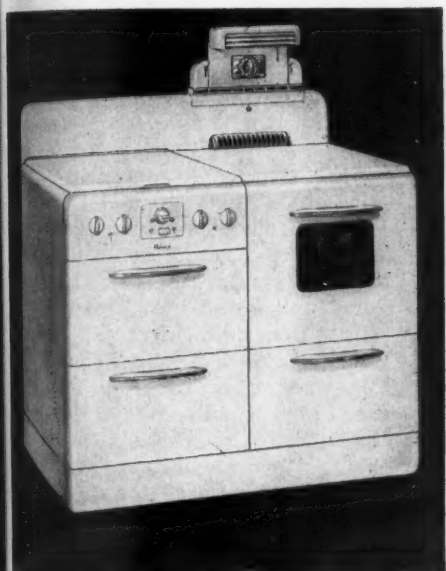
# FOR BIGGER LPG SALES GO FLORENCE IN '41!

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Please send me the Florence Gas Range Catalog, prices, and full information about the liberal Florence Promotion Plan for Dealers.

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# FLORENCE

## Gas Ranges

## FOR LIQUEFIED PETROLEUM GAS

FEBRUARY-1941

These tests prove the value of butane as a premium fuel for the operation of all types of power units whether on the farm or in industrial plants, and constructive selling methods should make this price obtainable.

### Reformation

There has been much discussion as to the reformation of large quantities of commercial butane into high-grade aviation gasoline by means of alkylation and other processes. In order to determine the soundness of this program, the value of the product in its natural state must be weighed against its value as a charging stock in the manufacture of another fuel. No problem would arise if it were not for the volatility of the butanes in the natural state, because if butanes were a liquid at normal temperatures and pressure, we would not even be able to supply a portion of the demand. It can be said that the vapor pressure of this fuel and its limited supply are the only deterrents to its universal use. It answers practically all of the requirements of a perfect motor fuel except for its high vapor pressure.

With tank manufacturing methods and valves and fittings improving daily, the cost of handling this volatile material is rapidly decreasing.

On long-haul operations, deliveries of butanes can now be made at the same cost per gallon as gasoline. On small dumps, however, the delivery costs are slightly higher. Educational and service costs are also dropping rapidly as the consuming public becomes familiar

with the product and its many uses.

With a constructive sales program, markets could be found where the premium value of this fuel would warrant a premium price and where the slight additional cost of handling would be a minor item.

The large supply of butanes in the refineries leads to the assumption that only the isobutane from the natural gasoline plant operation will be called upon to round out the alkylation of these refinery products, thus leaving the excess normal butane and propane for the commercial butane markets. This normal butane can be blended with a small percentage of propane to make a commercial butane useable for practically all present uses, with the possible exception of bottled gas.

This course would appear to be a sound one, and present indications are that large quantities of isobutane will be so used, with the resultant curtailment of the commercial butanes available. The quantities thus removed from the existing market will have a stiffening effect on the present price and bring about a seller's market earlier than could be expected from existing statistics.

From the present outlook, it would be a logical step to remove the isobutane from the commercial butane market and use it as a charging stock in the alkylation of the refinery butanes, but the resultant stiffening of the butane market should limit this withdrawal by increasing the value of this product in its raw state to a point where it would not be economically sound to use it all for alkylation processes.

# Beat Competition

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WITH THE ONLY LPG RANGE THAT  
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GAS AND KEEPS ON COOKING.

This exclusive Dutch Oven LPG feature puts  
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**10 MAJOR  
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"The many savings made possible  
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Oven Ranges can pay for the  
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Dutch Oven LPG Ranges allow  
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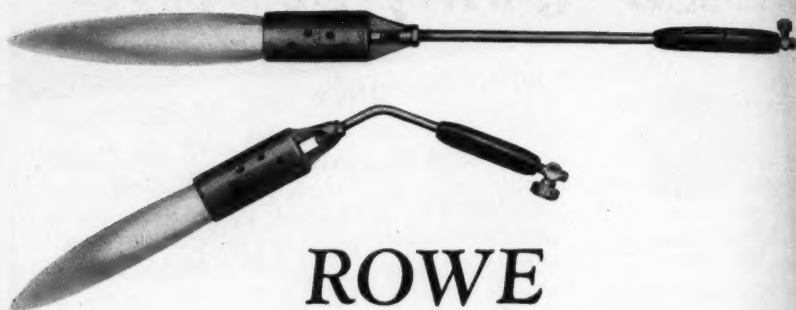
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prove the value of the franchise  
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Write today for the facts!

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### HEATING TORCHES

Rowe Heating Torches, operating on either Butane or Propane, throw large flames of intense heat, as required in preheating castings for welding, melting lead, babbitt, white metal, and Tobin bronze. These torches have found a wide distribution in machine shops, railroad shops, steel mills, shipyards and industrial plants. They are likewise used by farmers and ranchers in weed burning, drying and sterilizing. They are available with either straight or 45° stems, and with needle control valves. Write for full information, specifications and prices.

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or go to the expense of reformation merely to reduce its volatility.

To those who lift their eyebrows at this conclusion, it is only necessary to call attention to the propane market in small cylinders. Here was a planned sales program and a more or less controlled market without so-called dumping. This market today is increasing faster throughout the United States than the butane market, and the average price of this fuel to the consumer is about six cents per lb., or 26 cents per gal.; certainly a value greater than could be obtained from a charging stock.

### Conclusions

From the above tests and comparisons of value, we are forced to the following conclusions:

1. That commercial butane has a much greater competitive economic value than the present market indicates.
2. That it should be considered a valuable product and not a waste material, and as such should carry its proportional share of overhead, sales and operating costs.
3. That it has a potential user value greater than third structure gasoline in heavy duty equipment.
4. That it has an economic value more than 50% higher than diesel fuel.
5. That with proper marketing this product would become a premium fuel for many types of equipment and in many operations.
6. That in figuring the use of commercial butanes for alkylation and chemical processes, the present market value should not be used as a yardstick, but a potential economic value should be used. This value will

become immediately apparent when a seller's market is reached.

### Marketing Problems

There may be several answers to the question of why, if all these conclusions are correct, this premium fuel has not taken its proper place in the industry. The most evident answer is the one of supply and demand, but constructive selling and a well-developed marketing plan would have brought about a seller's market by this time if some such plan had been in force. Unfortunately, butane has in most cases been treated as a stepchild, and no department wanted the task of building up a market for it. Hence the whole marketing problem was thrown in the lap of the natural gas department men who did not have any experience in retail marketing and were not equipped to handle it. The result was that Joe Doakes could drive up in a truck, and by paying nothing, pick up a load of butanes and deliver it to someone else's customer at half price. This pirating became the accepted practice, and a great deal of this type of business is going on today and will continue so long as the manufacturing department, without any set selling plan, will deliver to practically any Tom, Dick or Harry who drives up in a truck and pays for the fuel—generally with a rubber check! This practice must be stopped if this industry is to progress and become a legitimate, revenue-producing part of the petroleum industry.

In summing up the marketing of commercial butane in the past, it might be said that except for short

periods it has been a process of dumping an unwanted waste material rather than the constructive selling of a valuable product which could carry its share of the costs and overhead of this industry.

### The Future Outlook

The next few years are important ones in commercial butane business, because the supply of the natural product is limited and we are approaching the point where the readily available will not supply the immediate demand, and in order to increase production, further investment will have to be made. When this happens, butanes will be called upon to bear their proportionate share of overhead and manufacturing costs—in other words, they will become a legitimate product and should be sold at a price commensurate with their actual value, with a constructive, progressive sales program.

In order to lay out such a sales program, it might be well to consider the volume of sales and readily available material in order to determine when a seller's market will be reached.

According to the Bureau of Mines, about 50 million gallons of natural gasoline are produced each month in California. Allowing 15% of this amount to be considered as commercial butanes, a total of seven and one-half million gallons per month is apparently available. A considerable portion of this total, however, cannot be considered readily available without additional investment in storage and equipment. A rough check leads to the conclu-

sion that about 20% of the total available is in this category. If this is true, five and one-half million gallons per month can be considered readily available in California.

The sales in this area were slightly less than three million gallons per month in 1938, and increased to over four million gallons per month in 1939. This increase seems to be continuing at a greatly accelerated rate, as estimates from the statistics of the Bureau of Mines for the first five months of 1940 show a nine-million-gallon gain over the corresponding period of 1939. From these figures, the conclusion must be drawn that a seller's market is rapidly approaching.

Using the five and one-half million gallons per month readily available, and deducting the four million gallons of sales per month in 1939—it becomes apparent that if the sales in 1940 increase only one and one-half million gallons per month, an exact balance will be reached this year—without considering the requirements of the alkylation processes. In fact, a seller's market would now be apparent if the refineries had not added to the natural supply by using their still vapors. This paper deals only with the natural supply, but in prognosticating the future outlook, this refinery source must not be overlooked.

No definite figures seem to be available as to the amount readily obtainable or the quality of this product from refinery vapors. However, the Bureau of Mines sets the sale of liquefied petroleum gases in this area at roughly seven million gallons for the month of September,

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# VIKING PUMP COMPANY

CEDAR FALLS, IOWA

FEBRUARY, 1941

three million from the refineries. It can be estimated that 50% of the refinery production is from natural gasoline plant origin. Thus, in September of this year, roughly, a total of five and one-half million gallons of natural product was sold.

Estimating that the alkylation processes will require all of the isobutanes in the readily-available commercial butanes, and assuming that the isobutane amounts to 20% of the total, a production of about eight million gallons of liquefied petroleum gases per month should be required to fill the demand in 1941. The industry is therefore faced with the problem of increasing the estimated readily available by two and one-half million gallons per month, with the resultant additional investment in storage and equipment, and the refineries will be called upon to supply larger and larger quantities from their still vapors as the sales increase.

Some leeway has been taken with these figures to demonstrate a possibility rather than an actuality. If all of the isobutane is taken to alkylate refinery butanes, however, the hoped-for seller's market should become an actuality in 1941.

Even though a demand greater than the supply is not apparent throughout the coming year, peak demands should press some producers to the point of cutting into their natural gasoline production in order to meet their commitments, and should cause an appreciable stiffening of the butane market, thus forcing the producers and marketers to realize that they have been throwing away a premium product which requires only a progressive, constructive sales program to force it to take its proper place as one of the cleanest, most economical premium fuels available, with an anti-knock rating equivalent to the finest of aviation gasolines.

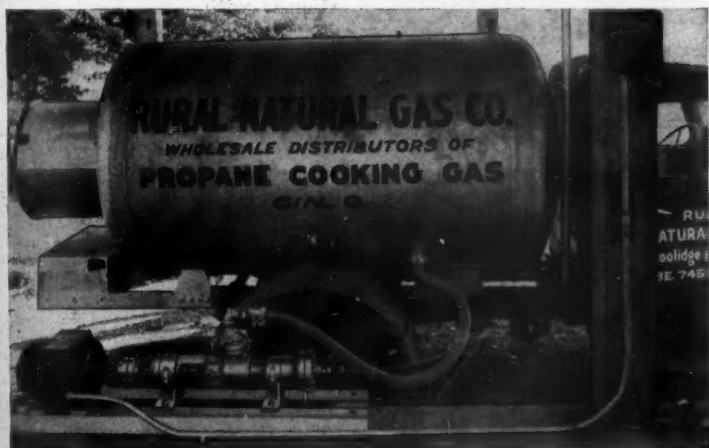


Twin butane-propane tanks with combined capacity of 1600 gals., mounted on a 2½-ton truck, owned by Fergas Co., Clovis, N. M., and operated on butane gas. The company has another 1200-gal. twin-tank truck, an appliance truck and a pick-up truck.

# Here's the kind of Service an **L.P.G. MOYNO PUMP** delivers . . .



Here's an L.P.G. Moyno Pump that's delivering a 20 per cent butane and 80 per cent propane mixture into 50 to 60 one-hundred pound cylinders daily . . . without variation in capacity. And not one dime has been spent for maintenance since its installation on November 13, 1939. That's the service record reported by the Rural Natural Gas Co., Mt. Washington, Ohio. Investigate this safe, efficient, economical, and revolutionary new butane-propane pump for *your* particular needs. Write Dept. G today for detailed descriptive folder and prices.



## **ROBBINS & MYERS, Inc.**

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# BUTANE *Power*

## **Bu-Gas Distribution With Modern Tank Truck**

One of the most efficient trucks for use in the butane distributing business is the one recently secured by Jess LaPrade, of Willcox, Ariz., according to his recent statement. The large tank on the back end of this truck holds 770 gals. of fuel, and it now takes Mr. LaPrade about 10 minutes to fill a tank which previously required from 20 to 30 minutes of time.

The truck is one of a fleet of five modern delivery trucks used for delivering Bu-Gas to the counties of Cochise, Pima and Santa Cruz, Ariz.

## **Santa Cruz, Calif., Grants Permit For Butane Fueling Plant**

The Butane Gas Service Co. was recently granted permission by the city council of Santa Cruz, Calif., for a fuel depot to be located in that city. The use was approved by the city planning commission, subject to compliance with all state and zoning regulations.

The contemplated work includes installation of a 7000-gal. storage tank. The application was signed by Vetterle Bros. and R. A. Houghton.

## **Butane Service in Mendota, Calif.**

Claude DeBoer, former operator of the Norwalk service station in Mendota, Calif., and butane distributor here, has leased his station to the Standard Oil Co., but will continue with his butane truck service.

## **Farm Trucks Represent 25% of Total in Use**

By far the greatest portion of the trucks registered in the United States in 1939 were small, privately-owned vehicles, and the largest single group of truck owners were farmers, an analysis made by the American Petroleum Industries Committee reveals in a recent report.

The committee found that one out of every four trucks registered last year was a farm vehicle, that 88% of all trucks were privately owned, and 92% had a capacity of two tons or less. Every year shows a greatly increased number of trucks converted to use butane gas.

## **Butane Corporation Files In Ventura, Calif.**

Operated by two women, the Ventura Butane Corp. recently filed articles with the Ventura, Calif., county clerk. Partners in the \$25,000 corporation are Bernice Poole and Maude Van Fleet, while C. W. Poole was named as a silent partner.

The firm has been operating since the first of last year, selling butane gas to service stations throughout the county. Deliveries are made in its two tank trucks.

## **Dix Moves Into New Los Angeles Quarters**

The Dix Manufacturing Co., of Los Angeles, is now located in new and larger quarters at 603 E. 55th St.

The company manufactures the Drygas butane filter for use with LP-Gas equipment. Other types of butane equipment are being developed for future production, according to Dick Adair, head of the firm. He also states that the company is at present producing parts for airplane construction.

## City Contract Awarded Butane Tank Lines

That women may be successful in the operation of butane trucking was indicated recently when the Long Beach, Calif., city council authorized the city manager to enter into a contract with the C-F Butane Tank Lines for hauling butane gas between the Standard Oil Co.'s El Segundo plant and the new city gas plant, where it will be vaporized and mixed with the city's regular dry gas during peak cold periods.

The "C-F", it was determined, stands for Catherine Follendore, of Los Angeles, who was low bidder from among the many concerns which submitted offers for hauling the gas, and who is engaged in large trucking operations in the West.

## Painter's Butane Transportation Adds New Truck Unit

Painter's Butane Transportation, operating out of Dos Palos, Calif., has recently put into operation a new LP-Gas transport unit. The tank is built with semi-spherical heads and is mounted on a GMC truck. The capacity is calibrated to be 2490 gallons of propane and 2580 gallons of butane, with dual outage gages.

In addition to this new unit, which also pulls a trailer, this company has two other transports, each of more than 6000 gallons capacity, and one semi-trailer unit of 5000 gallons.

## L. O. McClure Opens New Plant For Automotive Conversions

L. O. McClure opened the year 1941 by moving into greatly expanded and modern quarters at 1012 24th St., Bakersfield, Calif., after having been on Highway 99 and 24th St. for five years.

Specializing in truck and tractor

conversions and service, Mr. McClure now has a total clientele of more than 2000 users of liquefied petroleum gas in Kern county, for which he holds the exclusive agency for Ensign carburetors.

A full line of domestic appliances for LP-Gas is also carried, with current models displayed in the new showroom.

## Albert M. Mitchell Returns To Selling in the Field

Albert M. Mitchell, until recently general sales manager for the General Gas Corp. in Morgan City, La., has resigned his position to return to field selling because of his interest in the agricultural applications of LP-Gas among Louisiana farmers.

The General Gas Corp. has conducted a campaign on the conversion of farm tractors to use with butane and the plan has been widely accepted. Ten large bulk plants are distributed over the selling area to provide fast delivery service to all districts.

Mr. Mitchell was formerly connected with the National Butane Gas Co., Memphis, Tenn.; Southern Liquefied Petroleum Co., Dothan, Ala.; Hydro Gas Co. of West Florida, Pensacola, Fla., and several smaller organizations.

## Butane Service Co. Has Two California Locations

E. H. Uhl, proprietor of the Butane Service Co., is now operating in both Vacaville and Woodland, Calif. In addition to domestic installations he specializes in the servicing of trucks and tractors.

Last month it was erroneously reported that the Vacaville office was a Ransome Co. branch, instead of Mr. Uhl being a Ransome dealer in both towns mentioned. W. Pearson is not associated with Mr. Uhl.

# Eastern Section Enthuses Over Plans To Advance Industry

UNDER the Chairmanship of Wm. L. Hauck, the Eastern Section of the Liquefied Petroleum Gas Association has rolled up a 25 percent increase in membership since January, 1939, and polled the biggest attendance on record for meeting of the organization with a total of 250 registrations for its annual conclave, held in New York City on Jan. 16-17.

Plumer Pope, of Fuelite Natural Gas Co., Lexington, Mass., was elected Chairman for the coming year, on the recommendation of H. W. Richdale's nominating committee; he will be assisted in the conduct of the section's affairs by a strong slate consisting of Vice Chairmen S. L. Glickman, of the Natural Gas Corp. of New Jersey, and Peter Anderson, of Utilities Distributors, Inc., Portland, Maine. Adam Johnstone, of The Bastian-Blessing Co., Chicago, was elected secretary.

A lively interest in the displays of appliances and equipment held the delegates and guests in the exhibit rooms most of the morning of the opening day. Twenty-two manufacturers of equipment allied with LP-Gas spread out their wares for the edification and interest of the dealers and distributors who passed by the booth in a steady stream.

Harry King, of Thermogas Co.

of New England, commercial cookery specialist, covered the topic "Commercial Cooking Sales" in his capacity of lead-off speaker in the first general session. Hotel and restaurant jobs are the stabilizing load for LP-Gas; they represent the difference between a well-balanced year-round send-out and a seasonal business. Butane and propane have greater commercial possibilities than have ever been exploited.

Roy R. Johnson, of John Wood Manufacturing Co., talked on the value of organizations, under the heading "What do Industry Associations Accomplish?" Cooperation, the gathering of pertinent statistics, education and the promulgation of good practices and ethics and the recommendation of a suitable uniform accounting system are among the major accomplishments of any sound association.

"Advertising Methods" that have been found most effective in promoting the sales of LP-Gas were analyzed by F. W. Frost, of Carbide and Carbon Chemicals Corp. In general, big circulation publications such as newspapers and magazines are impractical. Radio costs too much. The small town and country newspapers can sometimes be used to advantage, but the best bet for local advertisers is direct-by-mail. Envelope stuffers, hand-out litera-

ture and broadsides seem to accomplish the best results for money expended.

C. C. Turner, of Utilities Distributors Inc., offered a practical paper on the subject of "Satisfactory Installation and Service." Service is a problem of psychology as well as of mechanics. Qualifications of a good service man: neatness, personality, tact, mechanical aptitude, thoroughness, and loyalty. Sales and service departments must each know the problems of the other. The industry needs the codification of installation and service practice. The Association should gather and publish this knowledge. Every installation failure is an industry failure. Competing fuels have well established standards of service and methods. LP-Gas cannot safely ignore this same obligation.

The Question Bee under the suave direction of Referee H. Emerson Thomas, of Phillips Petro-

leum Co., developed into the liveliest feature of the meeting. Experts Peter Anderson, Mercer Farrar, Mark Anton, Edward Braen, and Walter Hoagland offered sound solutions to such pertinent problems as how to increase cylinder turnover, should the industry have a standard unit of sale, how many domestic customers are using LP-Gas, how often should automatic safety equipment be inspected, and how will the defense program affect the continuing availability of butane and propane.

Friday morning was devoted to inspection of the exhibits and to a cooking demonstration conducted by home service experts. A. D. Howard, of Servel, Inc., opened the afternoon session with a talk on "Merchandising Refrigeration." Stating that only 10% of the new LP-Gas users in 1940 became users also of gas refrigeration, Mr. Howard believed that better organized local sales programs could raise this

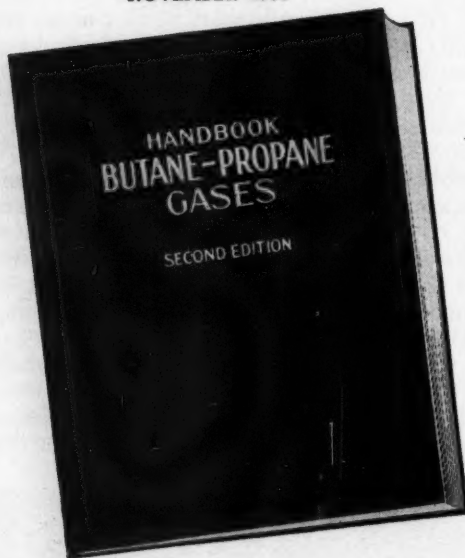


*This was the social side of the Eastern Section convention in New York.*

# Handbook BUTANE-PROPANE GASES

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NOVEMBER 1938

SECOND EDITION



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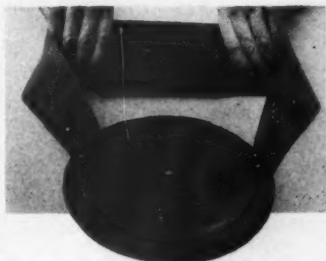
percentage in 1941 to a more respectable figure.

Urging LP-Gas dealers to push multiple usage, he told them: "You want two cylinders to grow where one grew before, and the only way to do that is by selling more appliances to each customer."

The second and final speaker was E. L. Mills of The Bastian-Blessing Co., who gave a running commentary on the new N.B.F.U. Pamphlet No. 58, "A consolidated set of rules covering everything except LP-Gas cutting and welding, which are in a separate pamphlet (No. 51)." Among the more common hazards, he noted, were the growth of dry weeds and grass around storage tanks, the improper application of relief valves to equipment now coming out in a great variety of forms and strengths as new applications of LP-Gas appear, and the leaving open of empty cylinders with the result that water vapor gets into them. As a general rule for prevention of accidents, Mr. Mills pointed out the need for informing consumers fully about hazards and safety measures. This also helps defend the dealer in event of lawsuits arising out of accidents.

The safety committee's report prepared by Edward Braen, recommended an L. P. G. A. membership label for installation conforming to Association approved standards. It was also suggested that safety could be further emphasized if the experience with and causes of accidents were printed and distributed to Association members.

## Diaphragms FOR LPG Meters and Regulators



Seams in Vulcan Diaphragm Loops are vulcanized, not stitched, as shown above, and are permanently leak-proof. The lower picture shows a Vulcan Regulator Diaphragm. Note how it is molded and shaped to the contour required. No oil necessary . . . no shrinkage in dry gases.

VULCAN Synthetic Diaphragms encourage the use of metered gas in the LPG industry . . . by insuring safe, dependable, uniformly accurate gas measurement. Vulcan Diaphragms are non-leather and need no oiling; hence, no bleaching, no shrinking. Made entirely from U.S.A. materials . . . a dependable source of supply regardless of foreign trade or war conditions . . . Vulcan Diaphragms for LPG meters and regulators have profitable advantages which cannot be ignored. Write for details.

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meter and regulator  
**DIAPHRAGMS**

# PRODUCTS

## Standard Coupler

*Ever-Tite Coupling Co., 254 West*

*54th St., New York City.*

*Model: Ever-Tite.*

*Description:* This is a bronze coupling unit which, when fastened to a regular coupling, speeds up operations. The female end is slid onto the truck adapter fitting, the levers are snapped down in place, and a leakproof union is completed. Prevents wear and damage to threads on faucet and hose coupling. The gasket is stationary, receives no friction, and will not become worn



or buckled. Eliminates fitting of lugs, and no tools or wrenches are needed. Made in the following sizes (inches):  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ,  $1\frac{1}{2}$ , 2,  $2\frac{1}{2}$ , 3, 4, and 6. Made for any fluid, including propane and butane.

## Domestic Range

*Geo. D. Roper Corp., Rockford, Ill.  
Model: New 1941.*

*Description:* Included in the new 1941 models are "Seal-Tight" ovens and broilers, which eliminate excessive heat loss and enamel discoloration; the "Observ-alite" small glass window in the oven bottom which



permits seeing the flame on oven burner without stooping; improved turret tops; flush-to-the-wall-and-floor design; balanced fronts, and modern styling. Former features retained include the "Three-in-One" baking oven; simmer speed and giant simmer speed top burner; "Peasant-Ware" broiler with "Serv-Tray", the life-time cooking chart, and the scientific broiling chart. The staggered top burner arrangement permits maximum use of top, with a full 41 inches of cooking surface.

## Gas Meter Catalog

*American Meter Co., 60 East 42nd St., New York City.*

*Number: Catalog LPG-4.*

*Contents:* This new catalog on liquefied petroleum gas meters is based directly upon American Meter Co. experience in providing specially constructed meters in a range suffi-

ciently wide to cover all butane-propane applications. Liberally illustrated, the catalog describes the company's tinned steelcase meters, pre-payment meters, ironcase meters, indexes most commonly used, diaphragms and other distinctive features. Especially valuable to LP-Gas men is the section devoted to specifications for ordering liquefied petroleum gas meters. Copies of Catalog LPG-4 may be had upon request to the company.



## Electrolux Refrigerator

Servel, Inc., 51 East 42nd St., New York City.

**Description:** The 1941 Servel Electrolux refrigerator contains more new or improved features designed to meet the changing requirements of the modern housewife than models of previous years. Increased ice cube capacity, added shelf area, greater flexibility of storage space, faster freezing of ice cubes, and more easily removed ice cube trays and cubes are notable. The frontal appearance of the refrigerator has been improved by the addition of stainless steel trim on the front



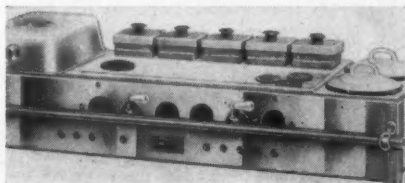
legs and lowering the apron of the small door covering the gas burner and a new style panelling of the refrigerator door.

## Sandwich Machine

Dickerson Manufacturing Co., Springfield, Mo.

**Model: D-X.**

**Description:** This new D-X machine is the same construction as the Model D; has the same size per-meator: the same size chili pots; only the griddle is longer and has space for five toaster blocks on the back-side of the griddle, which we term the toaster shelf, instead of three, as on the Model D. Has cast aluminum griddle, which is 13½ by 22¼ in. in size. The machine is insulated with asbestos to prevent heat loss. Length: 41¼ in.; width: 14 in.



# RESEARCH

- **BUTANE-PROPANE** News wishes to keep its readers informed regarding technical and practical advances concerning research, manufacture, development, and transportation in the liquefied petroleum gas field. In this column will be found a resume of recently published articles, papers, bulletins and books dealing with the industry's various phases.—Editor.

**What Load Will a Welded Joint Carry Safely?**—R. J. Hoffman. *Welding Engineer*, p. 45. A chart is illustrated which facilitates estimating the allowable loads on arc-welded connections for fillet welds, intermittent fillet welds, butt welds, and slot welds. An example explaining the use of the chart is included.

**Piston Deposits, Ring Sticking, Varnishing and Ring Clogging**—W. A. Gruse and C. J. Livingstone. *Journal of the Institution of Petroleum Technologists*, Sept., 1940, pp. 413-429. The general effect of the work presented is to indicate that engine-varnishing, ring-sticking, and oil-ring clogging are more or less closely related. Oxidation of the oil, chiefly in the crankcase, to unstable products followed by the decomposing of these products at hot points in the engine, play an important part in all three. It is recognized that increased outputs necessarily improve higher piston and cylinder-wall temperatures. However, it does not seem necessary that crankcase temperatures must also be higher. Since the effect of increased temperature on rate of ox-

idation is enormous—a 20° F. rise means approximately a doubling of the oxidation rate—every decrease in crankcase temperature means real improvement. While it is true that the oil is exposed to more severe conditions for short time periods, it must be remembered that the bulk of the oil spends most of its time at the crankcase temperature. It seems reasonable, therefore, to hope that engine designers can arrange to keep crankcase oil temperatures low. They will thus take an unnecessary load off the oil, leaving it in better condition to carry the necessary load it encounters on the piston, cylinder walls, and bearing surfaces.

**Doing Business Under the Defense Program**—Published Nov., 1940, by the *Bureau of National Affairs*, Washington, D. C. Single copy, \$1; in quantities of 250, 75 cents each. A handbook of the laws governing business practices during rearmament and including detail information on bidding on defense contracts; negotiating Government contracts; securing advances for plant facilities; assigning claims to secure loans; meeting the special labor requirements set for Government contracts; planning tax amortization at the new accelerated rates on defense facilities, and handling sales contracts and other relations with those in military service and those who may enlist or be drafted.

**Enthalpy and Entropy—The First and Second Laws of Thermodynamics**—E. F. Leib. *Combustion*, Oct., 1940, pp. 35-38. An elementary discussion of the relationship of heat and work, the conservation of energy, entropy, cycle processes and reversibility as basis for their application to the generation of power.

**BUTANE-PROPANE** News

**The Control of Smoke in the Automotive Diesel**—W. W. Manville, G. H. Cloud, A. J. Blackwood, W. J. Sweeney. *Society of Automotive Engineers*, Oct., 1940, pp. 397-406. Improvement in the control of smoke in the automotive diesel engine can be brought about by the use of lighter fuels of suitable ignition quality in cases where either design, maintenance, or adjustment fail to accomplish the degree of smoke control desired, the authors conclude. But this control is accomplished by some reduction in power and a loss in fuel economy. They suggest taking the power loss required for smoke control by means of resetting the smoke stop adjustment while retaining the advantage from an economy standpoint of the higher B.t.u. per gal. of the heavier fuel. The study reported in this paper not only covers the relationship between fuel properties and smoking, but also includes work on the effect of engine design, mechanical condition, and adjustment of the equipment on smoking. Not included in the program are other problems associated with smoking and objectionable exhausts from diesels, such as the related questions of odor, lubricating oil, and operation temperature.

**Wild Fires**—R. M. L. Russell. *National Safety News*, Oct., 1940, pp. 66, etc. Author discusses the various classes of fires, and means of extinguishing each.

**Fuel Quality Requirements as Affected by Items of Motor Maintenance**—H. M. Trimble and K. C. Bottenberg. *Refiner*, Nov., 1940, pp. 102, etc. A number of items of motor maintenance, which exert an influence on fuel-quality requirements for trouble-free operation, are listed and discussed. Such items appear to fall

logically into two classes, viz., those which contribute to place restrictions on the volatility characteristics of fuels, and those which contribute to determine required anti-knock characteristics. A series of road tests on 18 cars is reported, in which the effects of various maintenance items on octane requirements were investigated.

**Distillate Recovery—An Engineering View of "Retrograde Condensation"**—H. N. Wade. *California Oil World*, 2nd Nov., 1940, pp. 30, etc. Author describes the phenomena of retrograde condensation, defines a "distillate structure" and discusses: recovery systems; well patterns; producing wells; input wells; processing plants.

**Rapid Determination of Hydrogen Sulfide and Mercaptan Sulfur in Gases and in Aqueous Solutions**—J. A. Shaw. *Industrial and Engineering Chemistry*, Annual Edition, Nov. 15, 1940, pp. 668-671. A rapid method is described for the determination of hydrogen sulfide and mercaptans in gases and in aqueous solutions. The hydrogen sulfide and mercaptans are totally absorbed by a specially prepared cadmium chloride solution in a new type of flask. The determinations are made by iodometric titration under definite conditions designed to eliminate several sources of error without burdensome increase in time and manipulation. The required time for the laboratory manipulation is from 5 to 30 minutes.

**X-Ray Photography—Its Value in Pipe Line Operation**—R. Richardson. *Gas*, Sept., 1940, pp. 27, 28. Abstract of a paper presented before the Technical Section of the Pacific Coast Gas Association, Sept. 19, 1940.

## A New Name In Butane

# FABRIFORM

A company with 18 years of experience and thousands of satisfied customers now offers its modern shop and engineering knowledge to the LP-Gas industry.

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Tanks for every need in stock  
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## Mr. Dealer !

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## Greater Miami Dealers Form Organization

The dealers of Greater Miami, Fla., have formed a non-profit corporation of all the bottled gas dealers in the area, with Willard M. Ware, Gas-Oil Products, Inc., president; E. J. Van-Delinder, vice president; Ed Price, S. E. Natural Gas Co., treasurer, and the head of the local board of trade acts as secretary.

Its purpose is the promotion of the general welfare of the industry, which is faced with various credit problems, mechanical problems, and will cooperate in handling local tax matters and in opposing unfavorable legislation.

The dealers have all been cooperating on a friendly basis with each other for the past several years and the relationship is very friendly between all competitors.

Heretofore, they have been cooperating informally with each other and the industry as a group has done a splendid job in the area, with 15,000 customers using bottled gas. However, it was decided it would be well to form a non-profit corporation for the general promotion of the welfare of the industry and to aid in solving all types of problems which might come up from time to time.

Membership in the corporation includes all seven dealers in Miami.

## New Kansas Propane Wholesaler

It was announced recently that Max McClelland, of Beloit, Kan., had outfitted himself for engaging in the wholesale propane gas business, and had made his first deliveries to the local bottled gas dealers, the Fitzgerald Hardware Co., and Shea & Carpenter.

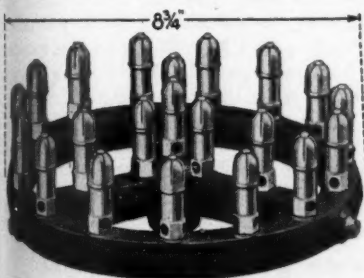
Mr. McClelland's truck has been equipped with an 800-gal. tank, and his territory will include Concordia, Belleville, Mankato, Minneapolis, Glasco and other points in Kansas.

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**BASTIAN-BLESSING CO.**  
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## WE BUILD *Your* LOAD *IN Our* LABORATORY



**Tested engineering  
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 backs your merchandising. Here's  
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- 1. Individual Testing:** Each Butane-Propane-fired PAYNE unit is tested by the PAYNE Testing Laboratory.
- 2. Custom-Adjusted:** Each PAYNE L.P.G. Furnace correctly adjusted to B.t.u. heating value and specific gravity of the mixture it is to burn.
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**PAYNE Dealerships are open in several L. P. G. territories. Write J. H. Keber, Sales Mgr.**



- Modern Consoles
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**WILL NOT  
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**Utilizing Famous J and S  
Vaporizer**

The improved performance of the Utility Butane System is due to the J and S Automatic Pressure-Differential Vaporizer, used successfully throughout the industrial field.

*Ask us about available territory, yes and the low cost of this all-weather System*

**Butane Equipment Co. Inc.**

**Manufacturers**

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DALLAS, TEXAS

**S. J. Dickey Elected President  
Of General Petroleum Corp.**

Announcement of the retirement of A. L. Weil from the presidency, and the election of S. J. Dickey to succeed him, is made by General Petroleum Corporation of California. Announced also is the election to the board of directors of Fred Isaacs, manager of the company's Mobilgas refineries, and R. L. Minckler, assistant to the president.

Mr. Dickey, newly elected president, has been associated with General Petroleum for 21 years, having first joined the company in 1919 as refinery engineer. In 1920 he was made chief engineer; in 1927 he was elected a director, and in 1930 he was made vice president in charge of manufacture.

Retiring President Weil is stepping out of active work after a long career in the oil industry, which dates back to 1899, and for more than 30 years of which he has been affiliated with General Petroleum Corporation. Tribute was paid to the retiring president at a banquet given in his honor at the Ambassador hotel, Los Angeles, on Jan. 10. He was presented with a handsome brochure signed by all persons connected with the corporation.

**Bryan Walker Installs Plant  
in Murfreesboro, Ark.**

A new 3000-gal. butane bulk plant has been installed in Murfreesboro, Ark., by Bryan Walker, who is establishing headquarters there for the sale of LP-Gas to domestic consumers. Heretofore, users of the fuel were dependent upon service from out-of-town firms.

Mr. Walker is also purchasing an 1100-gal. truck tank for local and nearby deliveries and will give a 24-hour service.

In the  
**MIDDLEWEST**

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**CODE HEADS—8" to 60" incl.**

Manufacturers of

**HANSON REDHEAD**

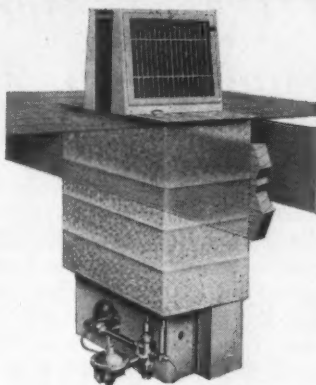
**Butane Carburetors**

**ROY E. HANSON**

Manufacturing Mechanical Engineer

1924 Compton Ave.

Los Angeles



**MR. DEALER: You'll Do Big Business with the 1941 "Pacific"**

**Dual Wall Register  
Floor Furnace  
for L. P. G.!**

★ IT'S in especially great demand because it heats rooms on either one or both sides of a wall. Quieter operation, greater structural strength, new interchangeable manual and safety controls further improve this L.P.G. Floor Furnace. Cash-in on its superior performance, finer value, rapidly increasing popularity. Write today for new free Catalogue.

Please Address Dept. BN-2.  
**PACIFIC GAS RADIATOR CO.**  
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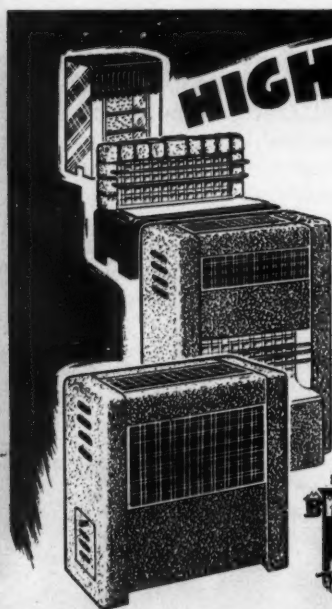
**Pacific**  
27 Successful Years and still growing

## L.P.G.A. Meet Opens Feb. 24

With attendance quota of between 400 and 500 as its announced objective, the program committee of the Liquefied Petroleum Gas Association is concluding the final arrangements that it is expected will make the meeting in the Palmer House, Chicago, on Feb. 24-25 the biggest and best that the organization has ever held.

At the end of the first week in January, 41 exhibit spaces had been engaged, with every indication that before the opening day the entire exhibit hall would be sold out.

Among the subjects and speakers at this convention the following are noteworthy: "Know Your Costs" by L. Abramson, Jr., Petrolane Gas Corp.; "Selling LP-Gas Refrigerators vs. Electric Refrigerators" by Robert Caniff, Servel, Inc.; "Merchandising of Gas Appliances" by John E. Bogan, Association of Gas Appliance and Equipment Manufacturers; "Successful Methods for Merchandising LP-Gas Heaters" by Capt. J. M. Fisher, Bryant Heater Co.; "The ABC of LP-Gas Safety" by E. J. Smith, Underwriters Laboratories, Inc.; "LP-Gas vs. Electricity" by L. L. Peters, American Stove Co.; "How to Sell Water Heaters" by R. W. Lewis, Ruud Manufacturing Co.; "Merchandising of Gas Appliances" by B. T. Frank, Milwaukee Gas Light Co.;



# HIGHLIGHTS!

### FOR YOUR 1941 HEATER CAMPAIGN

WRITE . . PHONE . . WIRE now for your BRILLIANT FIRE franchise. Insure the success of your 1941 Season with this fast-selling, profit making line of modern heating appliances. New designs . . novel features. Selling and finance plan provided. Pre-season low prices with fall billing now offered franchised dealers. Write for new G-41 Catalog.

Visit the BRILLIANT FIRE Display  
February 24th & 25th  
at LIQUID PETROLEUM GAS ASSOC.  
Convention, Palmer House (Booth 29), Chicago



*Gas Heaters*  
NATURAL • M'RD • BUTANE • PROPANE  
THE OHIO FOUNDRY & MFG. COMPANY  
STEUBENVILLE ~ ~ ~ OHIO, U. S. A.

# SPRAGUE METERS

for

PROPANE - BUTANE SERVICE

*Write for Particulars*

## SPRAGUE METER COMPANY

Bridgeport, Conn.  
Los Angeles, Calif.  
San Francisco, Calif.

## The CARTER OIL COMPANY

Tulsa, Oklahoma

**Manufacturers**

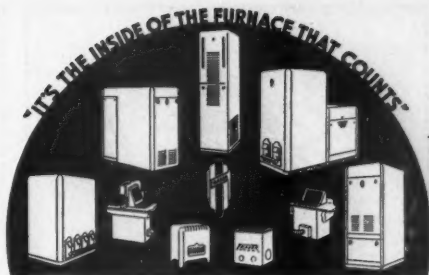
**and  
Suppliers**

of dehydrated

**PROPANE and BUTANE**

for the distributing and industrial  
trade. Shipping points: Seminole,  
Oklahoma; Stonewall, Oklahoma, and  
St. Elmo, Illinois.

Address inquiries to:  
Marketing Department  
Room 928, National Bank  
of Tulsa Building  
Tulsa, Oklahoma



## USER SATISFACTION EASIER SALES EASY INSTALLATION

The advanced engineering principles, finer materials and modern eye-appealing cabinets of Fraser LPG Warm Air heating equipment make **SELLING EASIER . . . CUSTOMER SATISFACTION GREATER.**

Ranging from multiple outlet, winter air conditioning systems to circulating consoles, there is a Fraser LPG burner that fills each heating need with the highest efficiency and greatest economy.

Before shipment, every Fraser LPG unit is tested with LPG fuel under actual operating conditions, thus assuring top performance . . . utmost safety.

Installation is made easier by complete assembly, fully wired controls and other time saving features.

Fraser Furnace Co., specializing exclusively in Warm Air, gas fired heating, has recently doubled manufacturing space to care for constantly increasing demand.

*Send for your illustrated  
data and specification sheets.*





**ONE WORD SAYS  
ALL OF IT . . .**

**Skellyfuel**

**(BUTANE-  
PROPANE)**

**Yes—when you specify Skellyfuel you eliminate a lot of unnecessary conversation. You know you are going to get quality that meets your requirements and delivery on which you can *always depend*. The source of Skellyfuel supply is not limited to one area—but is insured by large operations in six states.**

**PHONE, WRITE, OR WIRE**

**SKELLY OIL COMPANY  
TULSA, OKLAHOMA**

"Problems of Marketing LP-Gases for Motor Fuels" by F. T. Carpenter, Phillips Petroleum Co.; "LP-Gases for Internal Combustion Engine Fuel" by C. L. Parkhill, Parkhill-Wade.

Informality will prevail, as in the past, and ample opportunity will be afforded for convention delegates and guests to engage in productive discussion of any of the problems seeking solution that they may bring to the convention.

In addition the election of officers will be of prime importance.



### **Butane-Propane Regulations Set For New Mexico**

New Mexico's 10 district health officers were asked recently to investigate installations of gas heaters in camp grounds, with a view toward setting regulations governing their use. Dr. C. H. Douthirt, state director of county health work, is leading the movement.

A set of regulations for installation and use of butane and propane gas appliances is expected to be approved by the state health board soon, while additional regulations, covering the use of natural gas facilities in camp grounds and comparable public accommodations, also are under consideration.



### **Butane Gas Co. Installs LP-Gas In Arizona Schoolhouse**

The Butane Gas Co. recently installed a new heating system in the Sedona (Ariz.) schoolhouse. Residents of the town were given a chance to approve it recently when the school held a carnival and dance in the auditorium.

*For Safety  
and Economy*

# ETHYL MERCAPTAN

—Purified—

The **ACCEPTED**  
standard  
odorant  
for liquefied  
petroleum  
gases.

**MALLINCKRODT  
CHEMICAL WORKS**

ST. LOUIS

NEW YORK

## MR. L P-GAS DEALER!

A Continental Catalogue  
Is the First Step to New  
Profits for You

Write today for booklet  
that will give full infor-  
mation on the complete  
"all-price" line Continen-  
tal has for the LP-Gas  
industry.

*Continental*

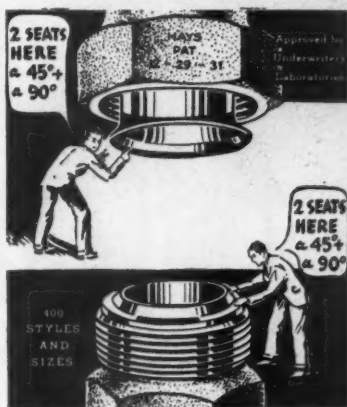
A.G.A.  
Approved



**Water Heater Co., Ltd.**

1637 N. Spring St.

Los Angeles



## "DOUBLE SEALS" for tighter LP-GAS COPPER PIPING

Only Hays Double Seals feature two planes of copper pipe contact, the 45° seat grips and the 90° seat locks. No pipe threading—no litharge—no solder—it's a copper to copper, doubly tight connection.

Exhaustive Underwriters Laboratories' Pull, Twist and Vibration Tests proved Double Seals to have a great reserve of mechanical strength that assures their **SAFETY** in LP-GAS copper piping. Write for pocket manual that tells all about Double Seals.

—COUPON—

**HAYS MFG. CO.  
ERIE, PA.**

Gentlemen: Send pocket manual  
that tells all about Hays Double Seals.

Name.....

Address.....

City.....State.....



## Nebraska Butane Dealer Sponsors Sales Contest

Pearson and Tonsing, Talmadge, Neb., Electro-Gas dealers, recently announced the winner of their sales promotion contest which required contestants to write a brief letter on, "Why I Like Electro-Gas." The home office of the Electro-Gas Co. is in Syracuse, Neb.

Winner of the contest was Mrs. Edith Teten of Talmadge, who received a 100-lb. drum of Electro-Gas as first prize.

A picture of Mrs. Teten inspecting her three months' free supply of fuel is shown on this page.

Edith Teten, Talmadge, Neb., who won 100 lbs. of LP-Gas for writing winning letter in prize contest.

## WE SPECIALIZE IN YOUR LPG EQUIPMENT

Hydro-Gas Systems  
Smith Liquid Meters  
Butane-Propane Pumps  
Ransome-Forster Burner  
Equipment  
Skellyfuel (Butane or  
Propane Gas)

Southern Butane-Propane  
Systems

Butane or Propane Truck Tanks  
Plain, semi-streamlined  
or fully streamlined

Scaife Butane-Propane Cylinders

### EXCLUSIVE SALES AGENTS FOR:

General Steel Tank Co.  
Birmingham, Alabama

Arkansas Foundry Co.  
Little Rock, Arkansas

### WRITE, WIRE OR PHONE OUR NEAREST OFFICE

310 Gazette Bldg.  
Little Rock, Ark.

521 Martin Bldg.  
Birmingham, Ala.

## SOUTHERN GAS & EQUIPMENT CO.

*"Serving Arkansas, Louisiana, Missouri and the Southeast"*

# PACKING



## CORKENPAK

### For LP Gas Pumps

*One pound packs three  
average rotary pumps*

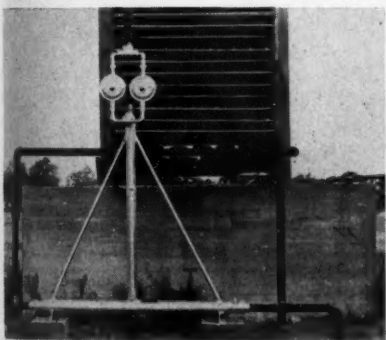
**COSTS \$3.00 PER POUND**  
Self-Lubricating — Non-Soluble  
Size "B" Fits Most Standard  
Rotary Pumps

*Proven by four years service in  
plant of Southwest's Largest  
Butane-Propane Manufacturer.*

**Corken Pump & Machinery Co.**

206 E. Grand

Oklahoma City



## J. & S. BUTANE VAPORIZER

For use on all industrial installations where the connected load exceeds 200,000 B.T.U. per hour, such as small communities, schools, tourist camps, cotton gins, feed mills, dehydrating plants and as standby units wherever power or heat is used.

Easy to install. Simple to adjust. Automatic in operation. Economical in performance. Built to use waste heat of any kind, such as exhaust gas, hot air, steam, or hot water. Built-in safety feature which prevents liquid from reaching the appliances or engines.

For further information, write, wire, or call

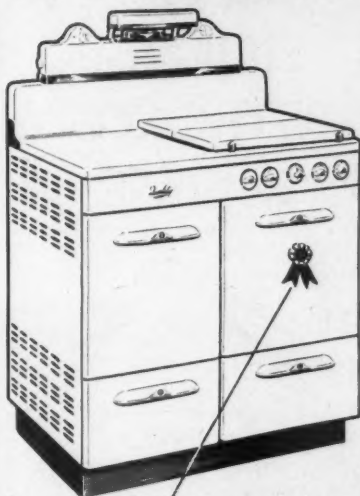
**J. & S. CARBURETOR CO.**

Box 5025

2634 N. Beekley

Dallas, Texas

## More LPG Business in '41 with QUALITY!



Feature the range that's *right* in features. Sell the range that's *right* in price! New models! New 1941 sales plans and literature. New catalog. And a new opportunity to increase volume and profits! Write today. Roberts & Mander Stove Co., Hatboro, Penna.

**IN '41 THE BLUE  
RIBBON IS ON—**

*Quality*  
**GAS RANGES**

FEBRUARY-1941

# 200,000 PROSPECTS for LIQUEFIED PETROLEUM GAS!



Yes, sir, 200,000 prospects in one field alone . . . poultry brooding! At least that many poultrymen are ready to buy liquefied petroleum gas once they have tried it with the A. R. WOOD "Radiant" GAS BROODER. The WOOD Brooder is built specially for this fuel, which has proven safe, economical, dependable, and clean.

*Write for Folder*

## A. R. WOOD MFG. CO.

Santa Cruz, Calif.  
Portland, Me.

Lufert, Minn.  
Whippany, N. J.

## R. S. Agee Leaves A.G.A.E.M. Post

R. S. Agee, sales promotion manager of the Association of Gas Appliance and Equipment Manufacturers, New York City, leaves that organization on February 1, according to a recent announcement. He will become vice president of the Roberts & Mander Stove Co., Hatboro, Pa. Mr. Agee's duties with the Association will be assumed by John E. Bogan, field counsellor for the CP gas range program of the A.G.A.E.M.



R. S. AGEE

Mr. Agee has been in charge of the CP gas range promotional activities for the Association for approximately three years, coordinating the merchandising and promotional programs of department stores, dealers and utility companies. He has represented the industry in both Canada and the United States.

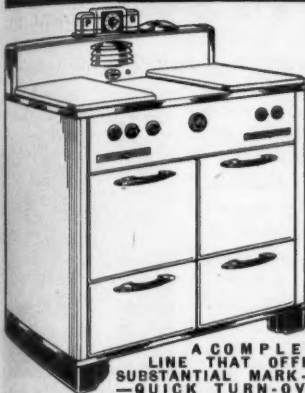
## Geo. D. Roper Corp. Holds Sales Convention

The Jan. 2-3 sales convention of the Geo. D. Roper Corp. at Rockford, Ill., provided the occasion for the introduction of 1941 gas range models to the entire sales force, district managers and field representatives.

The first morning and afternoon sessions and the second morning session were held at the factory showroom. The second afternoon was devoted entirely to advertising, sales and promotion discussions.

A photo of those who attended is shown on page 54.

## CROWN GAS RANGES For LIQUEFIED GAS

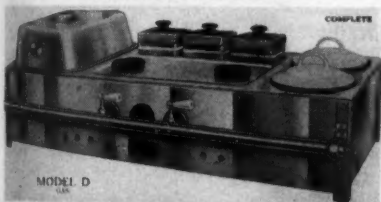


A COMPLETE LINE THAT OFFERS SUBSTANTIAL MARK-UP—QUICK TURN-OVER PLUS CUSTOMER SATISFACTION. Visit our showroom space—1464 Merchandise Mart during the Chicago Convention Feb. 24th, 25th.

## CROWN STOVE WORKS

4631 W. 12th PLACE, CHICAGO  
Originators of BUFFET and DIVIDED TOP GAS RANGES

## MEXIHOT BARBECUE HAMBURGER MACHINES



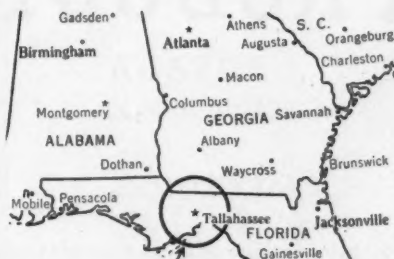
SEND FOR  
INFORMATION  
NOW!

Cash in on this popular equipment . . . Sells on sight to drug stores, roadside stands, tap rooms and cafes where you have not been able to sell your gas service before. The Model D above sells for \$38.50. This equipment prepares barbecue by the Permeation method. Prospects waiting to buy . . . write today for distributors' prices.

Department B 7  
DICKERSON MANUFACTURING CO.  
Springfield, Missouri

## CLOW GASTEAM RADIATORS

combine  
the SUPERIORITY of radiator heating  
the FLEXIBILITY of individual heaters  
the CONVENIENCE of butane gas



CLARK'S DE LUXE AUTO COURTS  
TALLAHASSEE, FLA.

### BUILDINGS

50 cottages—one room each  
1 office, lobby and cafe

### HEATING SYSTEM

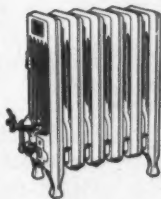
52 Clow Gassteam radiators—2973 sq ft. steam.  
25 20-gallon automatic storage water heaters.  
1 restaurant range.

### BUTANE CONSUMPTION

11,535 gallons for year 7-1-1939 to 6-30-1940.

OWNER HARRY P. CLARK says:

"Clow Gassteam radiators have proven very satisfactory to my guests as well as from the standpoint of operation cost. I doubt if any other heating method would be as satisfactory."



Each radiator makes  
its own steam heat  
with gas.

No basement, boiler or  
steam piping used.

For Heating a Single Room  
or an Entire Building

JAMES B. CLOW & SONS

201-299 North Talman Avenue

Chicago, Ill.

FEBRUARY, 1941

# QUALITY PRODUCT

PROPANE  
BUTANE  
OR  
MIXTURES

Philgas believes that there is no substitute for a full measure of quality in every gallon of product it produces or sells.

Philgas products are sold on what are probably the most complete and most rigid quality specifications in the liquefied gas industry. **YOU** can benefit by buying *assured quality* from Philgas.

**Philgas**  
DEPARTMENT

PHILLIPS PETROLEUM COMPANY  
GENERAL MOTORS BUILDING  
DETROIT, MICHIGAN

NEW YORK  
PHILADELPHIA  
CHICAGO

MILWAUKEE  
ST. LOUIS  
AMARILLO

BARTLESVILLE, OKLA.

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THE NATION'S LARGEST MARKETER  
OF LIQUEFIED PETROLEUM GASES

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## New Appointments Made in Florence Sales Organization

Henry H. Morse, vice president in charge of sales, has announced several important changes in the sales organization of the Florence Stove Co., Gardner, Mass.

H. E. Golden, formerly manager of the New York division, becomes general sales manager. In this new capacity, Mr. Golden will supervise sales in all the company's seven divisions.

Mr. Golden has been connected with Florence sales for 14 years; three years as sales manager of the Midwest division and for the past 11 years as sales manager of the New York division.

H. R. Singleton has been appointed assistant general sales manager. Mr. Singleton's 15 years' service with the Florence Stove Co. has carried him through the sales departments in Chicago, New York and Boston; and for the past nine years he has been assistant to Mr. Morse.

R. H. Taylor succeeds Mr. Golden as manager of the New York division. Mr. Taylor formerly traveled the Iowa territory for Florence.



H. E. GOLDEN

## Arkansas Butane Company Opens Office in Magnolia

The Magnolia Butane Gas Co., of Magnolia, Ark., recently opened an office at 120 North Jefferson in that city. The firm, which has been in operation for several months, is under the direction of B. M. Brazil and R. J. Dodson.

• We Specialize in Valves and Fittings for Appliances using Liquefied Petroleum Gas as a Fuel.

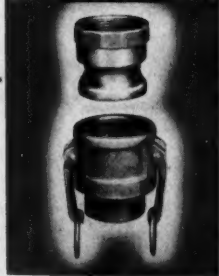
• Write for descriptive circular.



• This Offset Adapter can be furnished in  $\frac{1}{4}$ ",  $\frac{3}{8}$ ",  $\frac{1}{2}$ ",  $\frac{3}{4}$ " and 1" centers.

**The W.J. SCHOENBERGER Co.**  
CLEVELAND OHIO

**EVER-TITE**  
QUICK COUPLING UNITS



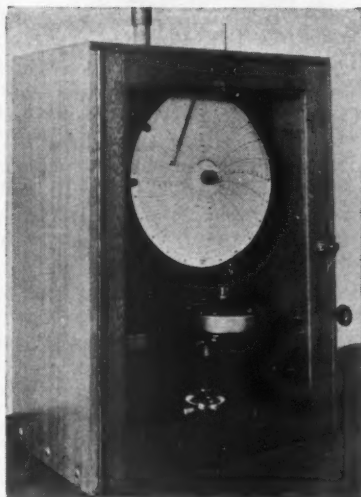
**Tight Connections! No Threads!**  
**SPEED — SAFETY — ECONOMY**

Ever-Tite Couplings have proven invaluable wherever connections are made—at bulk plants, on tank cars, for truck deliveries and on storage tanks. They offer years of trouble-free service and are designed for pressures to 3000 lbs. in sizes from  $\frac{1}{2}$  in. to 8 in.

Write for full information

**EVER-TITE COUPLING CO.**  
254 West 54th St. New York, N. Y.

## NOW Precision-Built By ARCCO



### ANUBIS RECORDING GAS GRAVITOMETER

The accuracy in manufacturing and painstaking attention to detail that have made American Recording Charts the leaders for years are now applied to building the complete line of Anubis Instruments. For example, this direct-weighting Gas Gravimeter produces a highly accurate temperature compensated record of specific gravity that reads direct to the second decimal place, and by easy approximation can be read to the third decimal place. Employs no electric motors or other mechanical complexities.

Send for the New Descriptive Bulletin

**AMERICAN**  
**RECORDING CHART CO.**

3113 E. 11th St. Los Angeles, Calif.

## Gas Refrigerator Revisions Include Propane and Butane

The subcommittee on approved requirements for refrigerators using gas fuel, of which W. S. Walker of the Consolidated Edison Co. of New York is chairman, recently completed revision to standards for gas-fired refrigerators. Changes and additions agreed upon are included in recommended revisions printed and distributed to member gas companies and manufacturers of gas-fired refrigerators and others interested, on Jan. 14, 1941, for review and criticism.

The section devoted to propane gas has been extended to cover liquefied petroleum gases, thus permitting approval for propane, butane, and intermediate mixtures.

In order that all suggestions and criticisms from the industry may be available for consideration by the sub-

committee at the time of its next meeting, it is requested that they be submitted promptly. They should be addressed to R. B. Harper, in care of the American Gas Association Testing Laboratories, 1032 East 62nd Street, Cleveland, Ohio.



## G. T. Dillman & Sons Win Philgas Contest

G. T. Dillman & Sons, of Crawfordsville, Ind., recently received special recognition from the Philgas Co., Detroit, Mich., as winners of a contest during September, October and November as the store selling the greatest number of Philgas installations in Indiana and Illinois.

Prize money totalling \$70 was awarded to Dillman & Sons. Mrs. Everett Purcell led the sales force in the contest.



# BETTER SERVICE

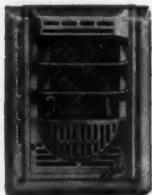
American engineers have for years given their customers a product that is better . . . better in construction, better in workmanship, better in material . . . and as a result a product that gives better, more efficient service over longer periods of time.

Consult American engineers regarding your Butane or Propane storage problems, no obligation.

**AMERICAN PIPE & STEEL CORP.**  
Manufacturers and Distributors  
Alhambra California

## Peerless Wall Heaters

Today Buyers everywhere are demanding Peerless Gas-Fired Wall Type Bathroom Heaters.



No. 7602

They are nationally accepted!  
1940 Sales more than 34 times 1934.  
White or colored enamel finishes.

Write for complete catalogue and prices.

**PEERLESS MANUFACTURING CORP.**  
LOUISVILLE, KENTUCKY



## WARREN Butane and Propane Comes From 18 PLANTS IN 7 STATES

And Warren's large fleet of tank cars, and our storage and loading facilities for customers' trucks insure understandable service and speedy delivery from several terminals strategically located.

Warren Butane and Propane are not ordinary products. Their constant high quality is a guarantee of their maximum performance which can be interpreted in terms of plus quantity.

Warren's Butane and Propane, the Fuel Twins of Heat and Power, are manufactured in our own Natural Gasoline plants in Oklahoma, Texas, Kansas, Louisiana, New Mexico, Illinois and Arkansas.

**PARTNERS--NOT COMPETITORS  
OF OUR CUSTOMERS**

*Wire or write*

## WARREN PETROLEUM CORP.

Manufacturers and Wholesalers

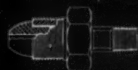
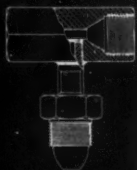
Tulsa, Okla.

**BUY BETTER BUTANE**

## Superior L. P. G. EQUIPMENT,

### PARTS and ACCESSORIES

R.O.L. MANIFOLDS,  
NUTS, NIPPLES,  
PLUGS AND CAPS  
... PIGTAILS ...  
FUSE PLUGS ...  
PROPANE PLUGS,  
CAPS AND  
ADAPTERS



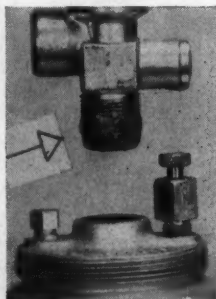
WRITE FOR BULLETIN

**SUPERIOR VALVE & FITTINGS CO.**  
509 WEST LIBERTY AVENUE  
PITTSBURGH • PENNSYLVANIA

FEBRUARY-1941

# NEW!

## BU-SEAL

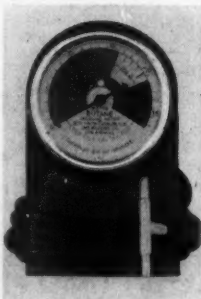


● Here, at last, is a sealing compound that will seal tank and cylinder valves for LPG use. Bu-Seal sets without permanent hardening; valves once set, may be removed (without damage); is not soluble in water, oil or gas.

## BUTANE

### Mileage Meter

● Increase your mileage on any engine 10% with this inexpensive, easy to install, mileage meter. Meter is constructed so driver can tell instantly whether or not engine is being driven at maximum efficiency. It pays for itself.



*We carry a complete stock of Pressed Steel I.C.C. Cylinders for immediate delivery, also tank fittings, regulators, pigtails, gauges.*

## ELECTRIC AND CARBURETOR ENGINEERING CO.

*"Pioneer of the Butane Industry"*

2323 E. 9th St.

Los Angeles

## Pacific Coast Section Meets In Stockton, Calif., Jan. 30

The Pacific Coast Section of the Liquefied Petroleum Gas Association will hold its next regular business meeting in Stockton, Calif., at the Hotel Clark on Thursday, Jan. 30. The convening hour is 10:30 in the morning.

The principal business to come before the meeting will be the election of Sectional officers for the 1941-1942 term. Also, there will be discussions of the probable effect upon the industry of the new code of the California Industrial Accident Commission, and methods to increase the value of the association to its members in the West.

## Verkamp Corp.'s Self-Service Extends Over Wide Territory

The Verkamp Corp., Cincinnati, will soon complete the first six months of its self-service plan for selling Philgas to cash-and-carry customers who live in rural districts and small towns in a radius of Cincinnati as great as 145 miles in some instances. However, such customers must live moderately close to the main office or branches in Dayton and Columbus to benefit measurably, as the smaller bottles are handled only at those places.

The regular 60 and 100-lb. cylinders are installed, as formerly, where self-service is not preferred.

## El Paso Firm Given New Mexico Charter

New Mexico State Corporation Commission recently issued a charter to the Engas Co., a \$50,000 oil and gas subsidiary of the El Paso Natural Gas Co. The company distributes butane and natural gas in New Mexico.

**"HEAT LIKE SUNSHINE"**

THE  
**VITARAY**

Line Consisting of  
**RADIANT, FIREPLACE  
INSERTS, WALL INSERTS,  
AND CIRCULATING HEATERS**

are especially designed for and

**A. G. A. APPROVED**

on Liquefied Petroleum Gases

Write for Complete  
Literature and Prices.

**THE QUAD STOVE MFG. CO.  
COLUMBUS, OHIO**



**AUTOMATIC "Liquid Gas"  
WATER HEATERS**

•  
**COMPLETE RHEEM LINE**  
15 to 95 Gallon  
Capacities

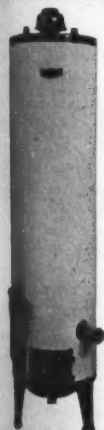
•  
**100% SAFE**  
Equipped with  
Grayson Unitrol

•  
**EFFICIENCY**  
*Designed and tested  
for long life and  
economy*

•  
**A. G. A. APPROVED**

•  
For Information Write

**RHEEM MANUFACTURING CO.**  
Houston, Texas      Chicago, Ill.  
Los Angeles, Calif.      Newark, N. J.



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## *How about your BUTANE-PROPANE Supply?*

Your future business is  
being built today.

**HIGH QUALITY** fuel and  
**DEPENDABLE SERVICE**  
makes well-satisfied cus-  
tomers.

**ANCHOR PETROLEUM  
COMPANY** specializes in  
high-quality butane and  
propane.

Our many shipping points  
in Oklahoma, Kansas,  
Texas and Louisiana as-  
sure you of a quick, de-  
pendable supply at lower  
transportation costs.

Write or wire us for  
quotations.

Phone L. D. 630

**ANCHOR**  
**PETROLEUM COMPANY**

Atlas Life Bldg., Tulsa, Okla.

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◆  
The Marshall, Texas, showroom of Robert Reeves, who sells LP-Gas plants and appliances in three counties.  
◆

### A Butane Kitchen Exhibit Displayed at Texas Fair

The Appliance Home, Marshall, Texas, last fall displayed a butane kitchen exhibit at the Central and East Texas fair, according to Bob Reeves, manager.

In addition to butane plants, the company sells ranges, heating appli-

ances, Servel Electrolux refrigerators and other appliances in two and one-half counties in that state. The store pictured on this page is located at West Grand and North Grove streets, in Marshall, which is on the main traveled highway through the city and an attractive display has been found to draw many customers. Eight salesmen are employed.

## METALBESTOS

NON-CORROSIVE — SAFE — EFFICIENT

### Gas Vent & Flue Pipe

INSTALLERS OF L.P.G. FIRED APPLIANCES SAVE TIME AND MONEY BY INSTALLING **METALBESTOS**. No condensation—perfect draft—proper combustion. It does a better job of gas venting and it's simple to install!

GUARANTEE OF  
EFFICIENCY, SAFETY  
AND DURABILITY



Trade Mark appears  
on every length.

THE MARK OF  
ORIGINALITY—THE  
ENVY OF IMITATORS

APPROVED AND LISTED  
BY  
UNDERWRITERS' LABORATORIES, INC.

APPROVED BY  
PACIFIC COAST  
BUILDING OFFICIALS CONFERENCE

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**WILLIAMS-WALLACE COMPANY**

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SAN FRANCISCO, CALIF.

ORIGINATORS OF DOUBLE WALLED - ALUMINUM LINED GAS VENT AND FLUE PIPE

# Notice

## BUTANE DEALERS

The following Butane equipment information will be given upon request without obligation.

- ☐ Domestic Gas plants.
- ☐ Motor Conversions.
- ☐ Meter Dispensing Systems.
- ☐ Stand-by plants.
- ☐ Central plants.
- ☐ List Special Requirements.....

## BUTANE LTD.

Consulting & Manufacturing Engineers  
2146 W. Washington Blvd., Los Angeles  
ROchester 9118

# ON GUARD



AT ALL TIMES  
IS THE  
**KEROTEST**  
PROPANE-BUTANE  
CYLINDER  
VALVE

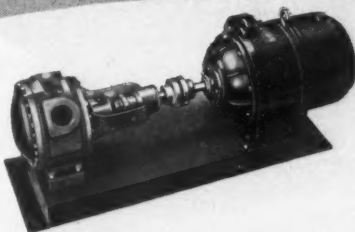
For controlling Propane-Butane gases accurately, depend on the Kerotest Propane-Butane Cylinder Valve. It's safe and extra-durable.

Write for Catalog.

**KEROTEST**

KEROTEST MANUFACTURING COMPANY  
PITTSBURGH PA

# Forget PUMP TROUBLES!



You can forget pump troubles when a Smith Butane-Propane Pump is on the job. Actual field records show that these pumps require less attention . . . have a minimum number of shutdowns . . . and give more hours of dependable, economical, trouble-free performance under ALL operating conditions.

Smith Pumps are supplied to give full capacity either at 500 R.P.M. for truck mounting or at 1800 R.P.M. for motor power.

### PUMPS FOR ALL SERVICES

Bulk Plants, Dispensing Units, Bottle Filling, Tank Trucks.

Write for Complete Information

## SMITH PRECISION PRODUCTS CO.

1135 Mission St., South Pasadena, California

# SMITH BUTANE-PROPANE PUMPS



Both are built on the time-tested Smith rotary principle which combines *speed* and *accuracy* not found in any other meters.

Standard Model BU-40 has a capacity of 50 g.p.m. and can be supplied with horizontal reset counter or with a 6" or 10" vertical dial, horizontal Set-Stop counter with or without ticket printer. This meter is for service where corrosion is not a problem. *Master Model BU-40* is for service where corrosion is a problem.

Both models will operate under pressures up to 250 lbs. per sq. in. and can cope with the high vapor pressures incident to metering propane. For details, write the office nearest you.

## SMITH METER COMPANY

SUBSIDIARY OF A. O. SMITH CORPORATION  
Factories at Los Angeles and Milwaukee

Sales offices at New York, Chicago, Houston, Los Angeles. Local stocks at convenient points.

## Bryant Heater Co. Announces Personnel Changes

The appointment of C. F. Cushing as sales promotion manager, D. E. Leslie as advertising manager, and H. W. Heisterkamp as manager of the air conditioning sales department has just been announced by The Bryant Heater Co., Cleveland, Ohio.

Mr. Cushing joined the Bryant engineering department in 1935 to assist in the development of silica gel humidifiers. In 1938, he became manager of air conditioning sales. Since 1937, Mr. Cushing has served on the American Gas Association's Air Conditioning Committee.

Mr. Leslie has been a member of the Bryant staff since 1935. He is a graduate of the University of Minnesota, and obtained his master's degree while doing research in heating and ventilating.

In 1933 Mr. Heisterkamp joined the Bryant engineering department in the development of heating equipment and dehumidifiers. Later transferred to the sales engineering department covering dehumidifier field application, Mr. Heisterkamp traveled from coast to coast. He will assume the responsibility of dehumidifier sales for 1941.



## Automatic Butane Gas Co. Opens New Office

The Automatic Butane Gas Co., of Seabrook, Tex., has recently opened offices and sales rooms in Goose Creek, Tex. The new branch is under the management of W. J. Rabb and R. T. Gorham, Mr. Rabb handling the plant and appliance sales and Mr. Gorham the service work. According to Mr. Rabb, the company has more than 300 customers in that area and is increasing this number daily.

This firm has been in operation for the past two years.

BUTANE-PROPANE News



Fleet truck operators have found they can lower fuel costs and save as much as 50% on engine maintenance with ALGAS Butane - Propane carburetion. If your trucks can be converted to Butane operation, it will pay you to investigate.

WRITE FOR LITERATURE TODAY

**American Liquid Gas Corp.**

1109 SANTA FE AVENUE  
LOS ANGELES, CALIF.



**STABILIZED**

**BUTANE**

We make wholesale deliveries by Transport, Tank Car or from one of our Bulk Plants.

Exclusive Distributors

**SMITH STEEL TANK CO.**

Manufacturers of A.S.M.E. code tanks

For further details write or wire

**R. J. ALLISON CO.**

P. O. Box 23

TULSA, OKLA.

## ARMSTRONG HEATERS

### The 4 - Star Line

- ★ QUALITY
- ★ EYE APPEAL
- ★ LOW PRICE
- ★ REDUCED SERVICE CALLS

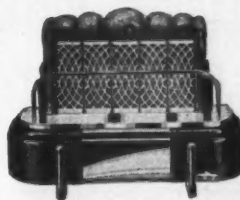
Four reasons why dealers are finding Armstrong Heaters such big sellers and such good profit makers.

### 10-C Bathroom Heater

Largest selling heater of this type. Last word in porcelain enamel beauty and heating efficiency. 1-piece body. Cast iron burner distributes even flame; equipped with adjustable air mixer. Reversible connection, left or right side. White with black lines or green and ivory. 11" wide, 14 1/2" high; 5 5/8" deep.



### 790 Radiant Heater



A popular seller. Body finished in brown vitreous enamel with heavy chrome hearth, front panel, dress guards and tubular legs. Glazed backwall is light tan shaded with brown. Light faced radiants harmonize with body. 2 sizes, 20,000 and 24,000 B.T.U. A. G. A. approval.

20,000 and 24,000 B.T.U. A. G. A. approval.

### 11 DIFFERENT STYLES

In the complete Armstrong line, there are 11 styles especially designed for liquefied petroleum gases—every one a big value—sized from 12,000 to 30,000 B.T.U. Finishes harmonize with any home or office surroundings.

### PLAN NOW

for this profitable fall and winter business. Send for illustrated literature and attractive dealer discounts. Address Dept. BP.

**ARMSTRONG PRODUCTS CORP.**

Quality Appliances Since 1899  
HUNTINGTON, W. VA.

## Central Ohio Gets New Gas Service

The Ohio Gas & Electric Co., 1469 East Livingston avenue, Columbus, Ohio, is the name of a new organization that started operations recently under the direction of Charles B. Temple. The company is distributor for Protane bottled gas and is dealer for appliances in ten central Ohio counties. The territory is now being systematically organized.

The firm is expected to have a personnel of approximately 50.

## Butane Agency Opens New Office in Turlock, Calif.

Lamar Jackson, Turlock butane appliance and oil stove dealer, last month formally announced the opening of his new, modern agency. Facilities of the new establishment include offices, a display room, a work

shop, an 8000-gal. butane storage tank and a 12,000-gal. storage tank for stove oil.

A full line of butane appliances, including all sizes of tanks and stoves, and water heaters, and all special equipment is to be carried by the agency.

Three delivery trucks are operated by the concern, and all deliveries are fully checked by officially inspected meters, Mr. Jackson pointed out.

## New Orleans Chosen for Spring Southern Section Meeting

New Orleans has been chosen for the next meeting place of the Southern Section of the Liquefied Petroleum Gas Association. Originally, it was expected this session would be held in Shreveport, La.

The tentative dates have been given out as April 28-29.

## TAPPAN'S 1941 L. P. GAS RANGES HAVE EVEN MORE SALES-MAKING FEATURES

**See these profit leaders at the LPGA Convention in Chicago, Palmer House**

SPACES 55-56

●Take this opportunity to inspect the entire Tappan line. See for yourself that Tappan is now, more than ever, the Range that sells itself. Ask about the Tappan features that mean so much in convenience, time-saving and economy—spell sure profits, quick turn-over to you. Ask, especially, about the new TEL-U-SET... most outstanding range development of 1941.

# TAPPAN

*Gas Ranges*

**INCREASE YOUR L. P. GAS SALES**



**PROVED FOR  
LIQUIFIED PETROLEUM GASES  
BEFORE YOU BUY, COMPARE THESE  
TO OUTSTANDING VALUES**



Type K-3B

1. Quiet AC Solenoids.
2. Two-wire current-failure principle.
3. Designed to eliminate magnetic sticking.
4. Rotable conduit connection.
5. Interchangeable coils.
6. Bonnet construction of accessibility.
7. Minimum number of working parts.
8. Reduced current consumption.
9. Impact action stainless steel plunger.
10. Widest range in sizes,  $\frac{3}{8}$ " to 6".

WRITE FOR 1941 CATALOG

**GENERAL CONTROLS**

450 E. Ohio St.  
Chicago, Ill.



267 5th Avenue  
New York City

**EXTRA  
LOADS**

Gas lighting is on the threshold of a great new popularity — it's "going places" thanks to the modern new Humphrey glare-proof Opalites.



Junior  
Opalite  
Model

Already this extra market for Liquefied Petroleum Gas is opening the way for bigger lighting loads.



**HUMPHREY  
OPALITE**

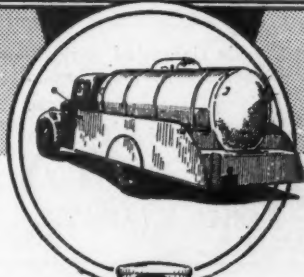
For stores, offices, homes, Humphrey Opalites offer plenty of soft, restful light. They're inexpensive, dependable, and built of materials that will keep their beauty for many years. Send for complete information.

**GENERAL GAS LIGHT CO.**  
KALAMAZOO, MICHIGAN

**LOOK TO THE  
*Leader*  
FOR BETTER TANK  
Values**

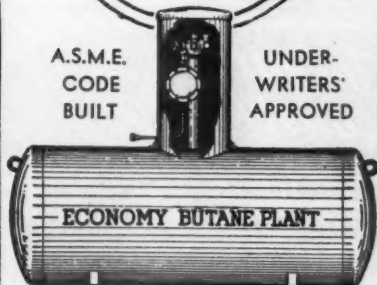
**BUTANE-PROPANE....**

- ★ UNDERGROUND TANKS
- ★ BULK STORAGE TANKS
- ★ TRUCK TANKS
- ★ SKID TANKS



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BUILT

UNDER-  
WRITERS'  
APPROVED



ECONOMY BUTANE-PROPANE SYSTEMS are constructed for 100.8 lb., 125 lb., and 175 lb. working pressure for underground use; 200 lb. working pressure for above ground. Approved by Underwriters' Laboratories; inspected by Ocean Accident & Guarantee Corp., Ltd.

Write, Phone or Wire for Details  
**"Tanks By Banks"**

**DALLAS TANK  
AND  
WELDING CO., INC.**  
201-5 West Commerce Street  
DALLAS, TEXAS

# M McNAMAR

## Truck Tanks Transports Skid Tanks Storage Tanks Underground Systems

All tanks inspected by Ocean  
Accident & Guarantee Corp., Ltd.

We fabricate to your  
individual requirements.

# M McNAMAR

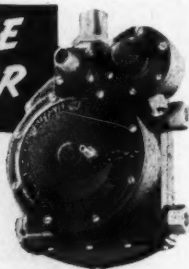
BOILER & TANK CO.

TULSA, OKLA.

SALEM, ILL.

## The BUTANE CONVERTER

*That's  
Outstandingly  
Superior*



The Dickson Butane Carburetor, unlike ordinary converters, is a compactly designed, trouble-free unit—completely self-contained. By means of Dickson's "unique" vaporizing principle—Butane is efficiently converted from its liquid to a fully dry gasified state.

For Converting  
Gasoline-Operated  
TRUCKS  
TRACTORS  
BUSES &  
POWER UNITS  
to Butane

WRITE TODAY  
FOR  
FULL DETAILS

# DICKSON

## BUTANE CARBURETOR

*"The Superior Converter for A Super Fuel"*

Manufactured & Distributed by PENINSULA BURNER & OIL CO.  
1739 Leslie Street, San Mateo, California

## Hand Fire Extinguishers Are Effective Blaze Fighters

Hand fire appliances provide the greatest saving of property and life of all fire protection equipment, H. W. Lange, assistant engineer of the Underwriters' Laboratories, Inc., told the National Safety Congress in Chicago recently.

"Fifteen per cent of fires upon which alarms have been given to the fire departments are extinguished before the arrival of fire department equipment," he said. "Sixty per cent of the fires which the fire department is called upon to control are extinguished with hand fire appliances. Fifty to ninety per cent of all the fires occurring in industry are extinguished with hand fire appliances without the necessity of calling in the fire department."

He cited the experience of one large industry employing hand fire extinguishers protection, where over 3000 fires occurred during the course of a year, and all but two or three of them were extinguished with hand fire extinguishers.



## Estate Presents New Lines At Annual Sales Convention

Backed by the slogan "Sell the one that's different," The Estate Stove Co. presented its new lines of cooking and heating appliances during the annual sales convention held at the factory in Hamilton, Ohio, Dec. 17-19.

More than 50 members of the Estate selling organization, as well as officials from several of the leading distributing outlets, were in attendance during the three-day session, which was under the direction of S. C. Bernhardt, general sales manager; C. M. Dunn, sales promotion manager, and Walter S. Rowe, merchandising manager.

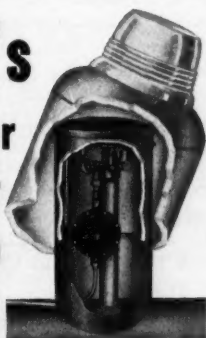
**Quality Butane  
Merchandise  
and  
Service That  
Satisfies**

**Underground Tanks  
Above Ground Tanks  
Truck Tanks  
and Bulk Tanks**

*by*

**National Butane Gas Co.  
MEMPHIS, TENNESSEE**

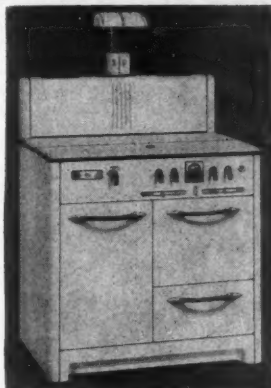
**Here's  
the answer  
to Winter  
Freeze-up  
Problems**



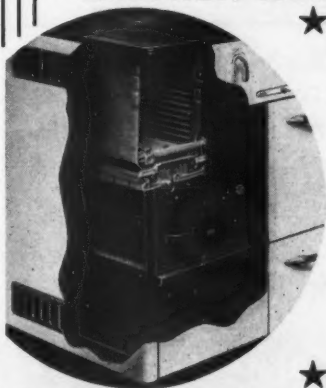
**PIONEER INSULATED HEAD**  
with proper size tank to adequately handle the maximum winter load of all connected appliances. Pioneer insulation prevents head freezing . . . reduces costly service calls . . . increases customer satisfaction. All Pioneer Plants conform to the ASME code. Write for details of the easy-to-sell, 5-year guaranteed Pioneer Line.

**EWING BUTANE GAS CO.,  
DALLAS, TEXAS**

**WEDGEWOOD  
L. P. G. RANGES**



**with LARGE-SIZE  
KITCHEN-HEATER**



- ★ Cooks  
Your  
Food
- 
- Heats  
Your  
Rooms
- 
- Burns  
Your  
Trash

**WEDGEWOOD**

THE MODERN RANGE

**James Graham Mfg. Co.**  
Los Angeles, San Francisco, Newark,  
California • Portland, Oregon

## "HEATWAVE" CONSOLES

Designed for the L.P.G. Industry, with burners and controls to meet the specific requirements of Liquefied Petroleum Gases, PLUS the famous "Day & Night" Heat Trap.



### RADIATE AND CIRCULATE HEAT

Radiant Heat through the lower "RADIATOR" plus circulating heat through upper louvers keeps the "living zone" evenly heated.

A.G.A. Approved for Vented and Unvented installation. Manual, Semi-Automatic, or Fully Automatic Controls. Forced circulation (Fan Unit) optional.

*Write for illustrated folder*

**DAY & NIGHT MFG. CO.**  
MONROVIA CALIFORNIA

IF YOU NEED A POPULAR-  
PRICED LINE OF RANGES  
TO HELP INCREASE SALES

## ROYAL ROSE

AND

## AUTOMATIC GAS RANGES

ARE DESIGNED FOR YOU

## J. ROSE & CO., Inc.

MANUFACTURERS

25 W. 29th St., New York, N. Y.

ESTABLISHED 1885

## Geo. D. Roper Corp. Opens Another Texas Office

J. C. Mansfield, division manager of the George D. Roper Corp., at Dallas, Texas, announces the opening of a branch office and warehouse in the Merchants and Manufacturers Bldg. in Houston, Texas. R. F. Hammack, district manager at Houston, will have charge of the office, and Betty Barker, formerly of Mississippi Power & Light Co. will direct floor sales and manage the office. Storage stock will be carried in the Buffalo warehouse in the same building.

A full stock of gas and butane ranges is now carried at the divisional headquarters office at Dallas and at Houston.



## Willis Bottled Gas Co. Fourteen Years In Business

Roy Willis of Willis Bottled Gas Co., Terre Haute, Ind., has appointed G. R. Yeager to the position of district sales manager for the firm. Mr. Yeager has been engaged in sales work in the Wabash Valley for the past 15 years. He will concentrate upon dealer relations for the Willis firm.

Mr. Yeager's joining the firm comes coincidental with the announcement of the company's 14th anniversary as dealer for the two projects which bring gas to the homes beyond the gas mains.



## C. C. Morgan Flies to Sales

C. C. Morgan, of Cameron, Mo., who recently took up flying, now flies quite often to business meetings where the distance is too great to be an easily-made automobile trip. A salesman for the Butane Gas Co., he recently flew to Cedar Rapids, Iowa, where he attended a sales conference.

# CROWN!!

*Quality Water Heaters*

A COMPLETE LINE OF  
MODELS IN ALL SIZES

Write for our Catalog and Sales Handbook

**Crown Water Heater Co.**  
COMPTON, CALIFORNIA

## ECONOMY Installations Build Increased PROFIT

ECONOMY Ranges insure the dependable performance of installations. That's why distributors say they are real profit-builders. Engineered particularly for propane and butane gas, ECONOMY Ranges are priced right, made right.

Investigate ECONOMY Household and Commercial Ranges. Write for 1941 catalogs today.

Comstock-Castle Stove Co., Quincy, Ill.

## Harold W. Wickstrom Consulting Engineer

Reports - Design - Conversions

4800 Santa Fe Ave.

Los Angeles

## RUUD WATER HEATERS

ALL TYPES AND SIZES  
COMPLETE SALES HELPS...

Write for Details

**Ruud Manufacturing Company**  
Pittsburgh, Pa.

## COMPLETE ENGINEERED BUTANE-PROPANE STORAGE PLANTS

TANKS—FITTINGS  
I.C.C. CYLINDERS

**KING BROS., Inc.**

3500 S. E. 17th Ave.

Portland, Ore.

## Winter Needs A Filter!



Moisture is more prevalent in butane in winter. Eliminate this and other harmful substances with the new DRYGAS FILTER. Protect delicate mechanism, improve economy and performance. Every filter sold on money-back guarantee. Write for circular.

**DIX MFG. CO.**

603 E. 55th St.

Los Angeles

## Nationwide Service

*Guarantees constant and  
convenient supply of*

# SHELL

**Liquefied Petroleum Gas**

## VULCAN COMMERCIAL COOKING EQUIPMENT IS A BIG LOAD-BUILDER!

Sell more ranges, ovens, broilers,  
deep-fat fryers. Write for promo-  
tion plan and nearest sales office.

**Standard Gas Equipment Corp.**

18 East 41st Street, New York

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sell the Line  
that

# BUILDS PROFITS

# Sell SECURITY

## Because It Gives CUSTOMER SATISFACTION



DE LUXE  
WATER HEATER

Over 36 years of Leadership in Engineering and Manufacturing Heating Appliances stand behind the Security "Long Life Line" of Water Heaters. Trim, attractively finished—they are built to give dependable, trouble-free automatic service—equipped to produce volumes of hot water quickly—insulated to maintain temperatures at all times. Specially designed for Butane and Propane gas—operate at low cost—can be used in stores, barber and beauty shops, restaurants as well as homes. Includes every improved feature you've ever heard of, PLUS outstanding exclusive SECURITY features!

**SECURITY DE-LUXE**—galvanized storage tank—insulated "Fiberglas"—20-, 30- or 40-gallon sizes—under-fired, outside flue—heavy steel inner-drum—latest type blue-flame Bunson-type Burner, integral mixing chamber—boxed enamel and chrome finish—automatic safety pilot—short-range snap action thermostat—tinned brass dip tube to distribute cold water.

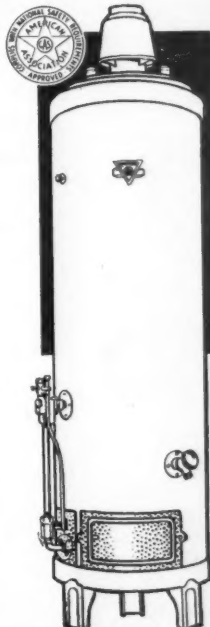
**SECURITY CADET**—20- and 30-gallon sizes. Down Draft Diverter prevents excessive up or down air currents—heavy steel jacket—snap action thermostat—safety pilot—easy 2-bolt burner removal—"Fiberglas" insulation—cast iron blue flame burner—handsomely enamelled, streamlined—hose connection drain cock—secondary air baffle for efficient combustion.

Write for Catalog Pages and Prices Today!

**Security Manufacturing Co.**

Kansas City

Missouri



CADET  
WATER HEATER

# SECURITY

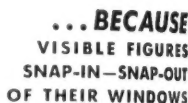
## GAS-FIRED



## PRODUCTS

### *The Long-Life Line*

TO SEE  
— AND  
ACCURATELY  
READ



With Brodie Meters equipped with Brodimatic Counters, direct-reading delivery totals are more quickly and accurately read. Each figure "snaps" instantly into full view through positive "snap-action" numeral change—an exclusive patented Brodie feature not available in any other meter register or dial. Plainly and visibly registered Brodimatic numbers just can't become "stranded" half-in, half-out of their windows, to cause guessed-at readings and costly errors. First time reading accuracy is positively assured. Write for details.

# BRODIE METERS

## COUNTERS

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945 61st Street, OAKLAND, CALIFORNIA, U.S.A.  
Cable Address: "Brunico" • District Office: Chrysler Bldg.,  
New York, City • 60 East Van Buren, CHICAGO  
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